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ABSTRACT

THE TEXAS PUBLIC SCHOOL PROGRAM FOR THE MINIMALLY BRAIN INJURED IS OUTLINED; GUIDELINES ARE PROVIDED FOR SCREENING, IDENTIFYING, AND EVALUATING THE BRAIN INJURED. THE DEVELOPMENT OF INTERPERSONAL RELATIONSHIPS IS DESCRIBED, WITH SUGGESTIONS GIVEN FOR ESTABLISHING BEHAVIORAL CONTROLS AND FOR CONDUCTING PARENT CONFERENCES AND COUNSELING; THE STRUCTURING OF THE CLASSROOM IS EXPLAINED. OVER ONE HALF OF THE DOCUMENT DETAILS THE CURRICULUM FOR THE FOLLOWING: DEVELOPMENTAL AREAS, INCLUDING MOTOR, PERCEPTION, LANGUAGE, AND SOCIAL AND EMOTIONAL DEVELOPMENT; ACADEMIC AREAS, INCLUDING FIVE COMMUNICATIVE ARTS, ARITHMETIC, SCIENCE, AND SOCIAL STUDIES; AND CREATIVE AREAS, INCLUDING ARTS AND CRAFTS, DRAMATICS AND CREATIVE PLAY, AND MUSIC. THE VOCATIONAL PROGRAM IS ALSO SURVEYED. EVALUATION OF THE GUIDELINES IS DISCUSSED; 128 PROFESSIONAL REFERENCES, INCLUDING TESTS AND READING PROGRAMS, ARE LISTED. APPENDIXES PROVIDE DEFINITIONS OF THE BRAIN INJURED CHILD, FORMS USED IN THE TEXAS PROGRAM, AND LISTS OF SUGGESTED EQUIPMENT, MATERIALS, AND SUPPLIES. (JD)

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SPECIAL EDUCATION

VOLUME III

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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**Guidelines for developing
a special education program for
MINIMALLY BRAIN-INJURED
children and youth in the local community.**

**TEXAS EDUCATION AGENCY
AUSTIN, TEXAS 78711
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Reviews of the local educational agency pertaining to compliance with Title VI, Civil Rights Act of 1964, will be conducted periodically by staff representatives of the Texas Education Agency. These reviews will cover at least the following policies and practices:

1. Enrollment and assignment of students without discrimination on the ground of race, color, or national origin.
2. Assignment of teachers and other staff without discrimination on the ground of race, color, or national origin.
3. Non-discriminatory use of facilities.
4. Public notice given by the local educational agency to participants and other citizens of the non-discriminatory policies and practices in effect by the local agency.

In addition to conducting reviews, Texas Education Agency staff representatives will check complaints of non-compliance made by citizens and will report their findings to the United States Commissioner of Education.

Foreword

The needs of the child with minimal brain injury differ sharply from those of most other handicapped children. Educational programs for this child need to be carefully organized, with directions, time, and procedures clearly defined. In recognition of these needs the Handbook and Curriculum Guide for Teachers of Programs for the Minimally Brain-Injured has been developed. It contains ideas and suggestions for planning and effecting an educational program for the minimally brain-injured child.

Curriculum Guide--Special Education, Volume III, is the third in a series of curriculum guides for special education in Texas. It was developed in a six weeks workshop conducted on the Lamar State College of Technology campus under the sponsorship of the Texas Education Agency in the summer of 1965 and revised in the summer of 1967. It is hoped the guide will serve as:

- a basis for teachers in developing programs for the minimally brain-injured
- a source of reference for school administrators and supervisors
- an aid to the teacher training institutions in professional preparation of teachers who will work with the minimally brain-injured.

J. W. Edgar
Commissioner of Education

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James R. W. Harper, Consultant, Teacher Training

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Commendation is due to the members of the Writing Committee:

Staff Coordinators:

Dainey Lege'
Irene Westmoreland

Yvonne Mesler, Chairman
Lela M. Eaves
Robert Tipton
Betty J. Willatt
LaMartha Wylie

Don Partridge, Director
Division of Special Education

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CHAPTER I

OVERVIEW OF THE PROGRAM

Minimally Brain-Injured Children

Definition

Authorities have developed differing opinions in delineating this handicap (see Appendix A). The Texas Education Agency, charged with the responsibility of establishing a definition under which the Texas program must operate, describes the condition as follows:

> Children who are normal or above in intelligence, but who have learning difficulties directly attributable to an organic defect caused by a neurological condition, and who are unable to adjust to or profit from a regular school program may be considered for classes for minimally brain-injured children.*

Purpose

The main purpose of the program for the minimally brain-injured is to provide an instructional program in an educational setting that will meet the needs of individual children with minimal injury by assisting them to function educationally and emotionally in such a way that, whenever possible, they may be prepared to return to the regular school program.*

Objectives

The objectives of the program may be summarized in the following seven statements concerning the program:

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* The Texas Education Agency. State Plan for Special Education, November, 1965, p. 4.

- Identify and place these children in special programs as early as possible, preferably during the preschool years, so that maximum growth in all areas may be obtained.

- Select and implement a teaching methodology based upon the various accepted methods of teaching minimally brain-injured children and on the individual needs of each child in academic as well as creative areas.

- Provide such instruction that each child's physical coordination and motor abilities may be strengthened and improved.

- Place emphasis on the development of the child's perceptual imagery, symbolic processes, conceptualization, and logical relationships through specialized instruction.

- Provide a maximum perceptual foundation for learning by selective and adequate perceptual training.

- Provide guidance to the child in his inter-personal relationships, his acceptance of himself, and his understanding of his handicap, thus assisting him to reach a maturity in social and emotional development.

- Provide vocationally oriented programs either on full or part time basis for those children who can profit best from this approach to proficiency.

Admission to Program

Prior to a child's admission to a class for the minimally brain-injured, a thorough review of collected data is made by the local placement committee, composed of professional personnel from the disciplines of education, psychology, and medicine who are familiar with the specific objectives of the programs.

Records used to determine the eligibility of every child must include the following:

- A written comprehensive psychological report signed by the examiner which indicates that the child is of normal intelligence or above and has the potential to achieve academically*

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* For specific information regarding this report, please refer to page

- A written report of a neurological examination (evaluation) signed by the examiner which describes the extent of the brain injury

- A written report of a general physical evaluation signed by the examining physician describing the health condition of the child

- Anecdotal records of the child's school history including grade placement and academic achievement for children of school age

Each child in the program must be at least six years of age but not more than twenty-one on September 1 of the year he is enrolled. His parents or guardian must give written approval for his admission to the special program.

When the local placement committee has ascertained that:

- the child is chronologically eligible

- his parents approve his placement

- his evaluations, medical and psychological, indicate his need for a special program for brain-injured children,

they recommend in writing his placement in the program. The report will be signed by all members of the committee. Individual reevaluation should be made no less than every three years. Only then can the child be continued in a special program.

Pupil - Teacher Ratio

Under the Minimum Foundation Program in Texas, it is necessary for the local district offering a program for minimally brain-injured children to have at least the minimum number of eligible students to qualify for reimbursement of the teacher's salary The ratio formula* is as follows:

- Minimum of 4 eligible pupils - State may reimburse district for ½ teacher's base salary

- Minimum of 8 eligible pupils - State may reimburse district for 1 teacher's base salary

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* Texas Education Agency, State Plan for Special Education, November, 1965, p. 6.

- Minimum of 14 eligible pupils - State may reimburse district for 2 teachers' base salaries
- Minimum of 24 eligible pupils - State may reimburse district for 3 teachers' base salaries
- For each additional teacher's base salary, the local district must have at least an additional 10 eligible pupils enrolled.

CLASSROOM ORGANIZATION

Special physical arrangements are necessary in the classroom for the minimally brain-injured child. The room needs to be large enough to make possible division into smaller areas by moveable partitions. Each of these areas may be used for a different aspect of teaching, thus structuring both physical space and the specialized program.

- The classroom should be located in a regular school building. The location within the school should be away from central activity areas such as playgrounds, auditorium, cafeteria, music and band rooms.
- Primary age children function better in a self-contained classroom sharing general school facilities such as lunchroom, auditorium, and library.
- Elementary age children may be in a homeroom and participate in the academic program of the school in whatever areas in which they are successful.
- Provision may be made for a playground with adequate equipment appropriate for each childhood activity.
- It is recommended that the class load at the elementary level be no more than ten (10) because of the nature of the children, the amount of time required in preparing materials for instruction, and the need for individualized instruction.
- The employment of one teacher aide for each primary unit would be advantageous because of the characteristics of the children.

- The secondary level unit might include as many as sixteen pupils when there is integration of the pupils into the departmentalized program of the school. Effectiveness of instruction is lessened when more than ten (10) pupils are in the classroom at any one time.

The Elementary Program

The minimally brain-injured child will profit from early identification and placement in a special program. Adaptation and individualization of the curriculum to fit the abilities and the disabilities of the child are necessary. The goal of the program for the minimally brain-injured child is return to the regular class when it is feasible.

For those children for whom return to a regular class must be delayed for a year or longer, alternate programs may be established.

- Some children may be able to participate in varying degrees in all class activities. At the junior high school level they may be able to do their work away from the special class with little support from the special teacher.

- Others may be able to participate only in classes such as art, music, and physical education.

- A few children may need to remain in a completely self-contained classroom.

The Junior High Program

Emphasis is placed on general education at the junior high school level. The importance of school subjects such as English, mathematics, science, and social studies, should not be minimized. Integration into regular classes as much as possible is expected. In some instances a self-contained classroom needs to be available; also, there should be a resource teacher for those students who are integrated. In a small school district, one person may serve these two needs.

The Senior High Program: A Three Track Program

Curriculum planning for the minimally brain-injured student on the secondary level can be designed along three basic tracks leading to graduation. Based upon evaluation of academic and behavioral progress and conferences with the student and his parents, the placement committee can effect placement of the pupil into a selected track where he can be expected to perform successfully. Placement should be on a trial basis with frequent conferences between the teachers who work with the student and the counselor until it is evident that the student can function independently. Placement on any track must be flexible. The progress of the student needs to be followed closely and changes or adjustments made when necessary.

Track One

The first track closely follows the regular curriculum of the local school district. At the secondary level a minimally brain-injured student on this track will probably not be eligible to be counted on the special education rolls because the majority of class time is spent in regular classes; therefore, these students may also be found in the regular vocational education program. The students on this track can be expected to fulfill the requirements for graduation. These students may need some assistance from the special education teacher. The special education teacher may assist the student by:

- Functioning as a resource person to assist academically
- Providing guidance in the selection of a course of study and choice of career for the student
- Interpreting particular problems of the student to the regular teacher
- Giving assistance of a remedial or tutorial nature
- Providing support and stability which will enable the student to function within the framework of acceptable behavior and performance at school
- Conferring frequently with other members of the instructional staff in an attempt to avert difficulties of an academic, social, or emotional nature.
- Developing with the student plans for a vocational, business, or college preparatory program in line with the individual student's ability and interest
- Assisting the student to qualify for a regular diploma.

Track Two

The second track proposes that the minimally brain-injured student be encouraged to participate in the regular program of the school to the extent that he is capable of profiting from such a program.

- The students will be able to participate in the regular class to a limited degree with most of the class time being spent in the special education room.
- The special teacher will serve as a resource teacher. She will also teach the subjects which are difficult for the student.
- The program for the student will be determined upon his entrance into high school. He may be placed into the regular vocational education program under certain conditions or the special modified vocational curricula for children with special learning needs, depending upon the curriculum of the high school and the abilities of the student.
- The student may spend part-time in a vocational program and part-time in the academic program. Students in this track may be referred to the Division of Vocational Rehabilitation.
- The student may or may not be counted on the special education rolls depending on the time spent away from the special class.
- The student will receive a regular diploma by earning the required 18 credits; or a special education diploma may be awarded depending upon the degree to which the student has met local requirements.

Track Three

- The student who needs to remain in a special education class throughout his school years is placed in Track Three.
- He may spend a minimum amount of time in a regular class where he can succeed because of some particular talent.

- At age fourteen many of these students may meet the eligibility requirements for the vocational education special modified vocational curricula for children with special learning needs.
- The student sixteen years and older on this track will be referred to Vocational Rehabilitation for a work-training program.
- The curriculum will include general education as well as vocational education.
- The student will graduate and receive a diploma from special education; or, upon professional evaluation, he will be terminated as unable to profit further from school services.

CHAPTER II

UNDERSTANDING THE CHILD

There are many factors to consider in understanding brain-injured children. Various sources must be studied to gain as much information as is available on each child. The teacher makes an educational assessment of each child. The parents, psychologists, neurologists, physicians, and social workers also contribute vital information concerning the child. To understand adequately each child and to devise a program of appropriate individualized instruction demands the use of information from every available source.

Behavioral Characteristics

Initially, the child usually is referred for evaluation because his behavior deviates from the average behavior to such an extent that he is obviously different. He is frequently a disrupting factor in a group situation. Brain injury could be the underlying cause of this deviant behavior and may cause any one or a number of anomalies such as intellectual defects, deficiencies in sensory perception and/or language development. The following characteristics may or may not be seen in all brain-injured children; however, all children exhibiting these characteristics are not necessarily brain-injured. The following items are included as a screening guide for use in initial referral of children for specialized assistance:

- Aggressiveness. The child seems to have a driving, forceful energy or initiative which is not necessarily of hostile intent. He is often shunned by his peers and may attempt to force his way into the group.

- Anxiety. The child seems to exhibit a painful or apprehensive uneasiness of mind. He lives in a nightmarish world where his obvious problems increase because of his faulty perception.

- Conceptual difficulties. The child seems to show a lack of verbal organization and has difficulty with abstract thought processes thus preventing thinking in a logical fashion.

- Defective speech. The child may exhibit or have a history of difficulties in articulation, rhythm, or verbal structure. Verbal structural difficulties in words are often mistakenly called "cluttering" or articulation errors. As an example a child may say "pose for suppose or "nabana" for banana.

- Destructiveness. The child doesn't intentionally destroy so much as he "mishandles" objects. There seems to be a direct relationship between his apparent destructiveness and his perceptual impairment, his perseveration and his emotional instability.

- Distractibility. The child seems unable to focus his attention selectively on a major aspect of a situation.

- Emotional instability. The child emotionally over-acts to situations. Excursions, parties, and change of routine over-excite him; disappointment and delay may bring on tears, tantrums, or withdrawal.

- Faulty perception. The child is constantly getting lost in his environment; faulty perception will not allow him consistently to integrate a form as a meaningful whole.

- Guilelessness. The child is often all trusting and gullible, desperately seeking peer acceptance.

- Hyperactivity. The child appears to be in constant motion, his "drivenness" may manifest itself also as valuable, uninhibited speech or as disorganized speech. This is often referred to as "hyperkinetic activity."

- Hypoactivity. The child has a pronounced lack of physical activity. Many times he is referred to as a child with a slow reaction and/or one who will not try or appears not to care.

- Impulsiveness and disinhibition. The child shows a lack of control, indiscriminate touching of objects and people, intrusiveness, and explosive reaction which may all be considered evidences of impulsiveness.

- Motor dysfunctions. The child has a lack of spatial orientation which contributes to what appears to be awkwardness. Visual-motor, and fine and gross motor functioning may be defective.

- Perseveration. The child continues to respond after the triggering stimulus has been withdrawn. Such response is unpredictable and can occur in a variety of situations and in different forms. Frequently, it accompanies success for the child in a situation; the child is reluctant to switch to a new situation.

- Social immaturity. The child experiences difficulty in establishing interpersonal relationships, and will often seek companionship of younger children.

Identification

Various evaluations are needed to identify the specific educational needs of children suspected of having minimal brain injury. Several disciplines including educational, psychological, and medical must be represented if these needs are to be identified and educational plans formulated to meet them. The written reports of these evaluations will give the teacher an indication of the child's assets and liabilities, an insight into his abilities and achievements as reflected through his developmental pattern, and facts about his physical and social status before instruction is begun. Modifications of educational and instructional practices, to a large extent, are dependent upon the adequate assessment of the child. This is one feature which differentiates the education of the brain-injured child from that of the average, since the normal child does not usually need such a comprehensive and thorough evaluation.

Teacher Assessment of Pupil Growth and Development

In some instances, psychological reports include an assessment of pupil growth and development. However, in those instances where such reports are not readily available, an initial teacher assessment of pupil growth and development is necessary.

The teacher will make his assessment through the use of assessment devices and diagnostic teaching. He needs to be familiar with developmental patterns of child growth and development in order to determine the developmental lags and/or deficits. As activities are planned and executed the teacher will become aware of these and other lags in development and inability to perform specific tasks.

Individual assessments will be computed as diagnostic teaching is done and estimates of developmental lag will be made. When this estimate has been made, the teacher will be better able to make a selection of training techniques which will strengthen specific deficits toward more normal growth in physical and educational development.

The comparison of term or annual assessment results will reflect pupil progress or lack of progress to the teacher. The assessment will measure the child individually and not as a part of a group.

An assessment device is included for the teacher's use. He may wish to add or omit items as he works with the child. (Refer to page the Bibliography for suggestions of other assessment devices.)

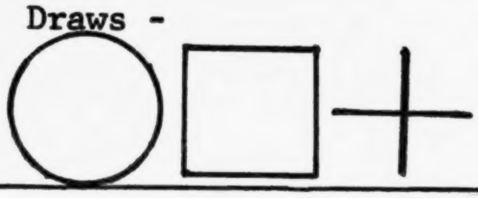
Child's Name____________________

Birthdate____________________

Examiner____________________

Date____________________

TEACHER ASSESSMENT OF GROWTH AND DEVELOPMENT

A. Motor Development	yes	no	un-decided	comments
1. Hops on right foot				
2. Hops on left foot				
3. Skips				
4. Bounces ball				
5. Jumps rope				
6. Throws ball				
7. Catches ball				
8. Walks tape or walking board				
9. Walks backward				
B. Rhythms				
1. Marches to music				
2. Claps to music				
3. Does folk dancing (Looby Loo, London Bridge)				
4. Calesthenics				
C. Eye-Hand Coordination				
1. Draws - 				

	yes	no	un-decided	comments
2. Cuts out simple pictures				
3. Draws ◇				
4. Notes absurdities in picture				
5. Writes several sentences				
6. Uses handwriting as a tool				
D. Language and Speech				
1. Plays meaningfully with toys				
2. Uses tools (pencil, paper				
3. Follows simple verbal directions involving use of prepositions (on the box, under the box)				
4. Speaks in single words				
5. Speaks in phrases				
6. Speaks in sentences				
7. Tells a story from a picture Is story meaningful?				
Is story told sequentially?				
8. Relates personal experiences In sequential order?				
In phrases?				
In complete sentences?				

	yes	no	un-decided	comments
E. **Perception**				
1. Notes differences of materials (Sorting, matching, comparing)				
2. Makes comparisons of things he sees				
3. Has minimum interest in symbols				
4. Reproduces tasks				
5. Knows address				
6. Recognizes printed name				
7. Respects other people's property				
8. Is able to count by 1, 2, 5, and 10				
9. Has sentence concept				
10. Adequately integrate his ideas into story				
11. Makes change in small amounts				
12. Writes several sentences				
13. Has (highly marked) individual differences				
14. Makes use of simple multiplication facts				
15. Makes use of simple division facts				
16. Makes general use of fractions				
17. Can carry to ten's place				
18. Uses measures				
19. Can make applications of above processes to familiar situations				
20. Discriminates between important and unimportant situations.				
21. Accepts routine				

	yes	no	un-decided	comments
22. Sets own routine				
23. Uses numbers beyond 100 with understanding				
24. Has good memory for fairly complex sentences				
25. Reads for information to solve problems				
26. Can make transition from concrete to abstract thinking				
27. Handles abstractions with facility				
F. Emotional				
1. Accepts sudden change of routine				
2. Shows extremes of				
Fear				
Joy				
Affection				
Anger				
Shyness				
Agressiveness				
3. Shares affection				
4. Interacts adequately with own age group				
5. Is sociable				
At times actively				
At times inactively				
6. Engages in dramatic play				
7. Has sense of humor				

	yes	no	un-decided	comment
8. Likes to construct				
9. Likes to manipulate				
10. Likes to demonstrate his skills				
11. Cooperates with group				
12. Is affected by success				
13. Is affected by failure				
14. Performs like a perfectionist				
15. Is easily discouraged				
16. Loses interest in task				
17. Accepts group criticism				
18. Needs clubs and organizations				
19. Shows interest in				
Travel				
Adventure				
Science				
20. Shows interest in exploration				
21. Has interest in comics				
22. Is critical				
23. Is changeable				
24. Is rebellious				
25. Displays emotional outbursts				
26. Is uncooperative				
27. Strives to project own personality				
28. Asserts own sense of values				

	yes	no	un-decided	comment
29. Shows interest in opposite sex				
30. Desires to earn wage				
31. Has interest in occupation				
32. Begins to stabilize interests				
G. Social				
1. Plays in one location for long periods				
2. Plays in well organized manner				
3. Plays with boys and girls in small groups without identification of sex differences				
4. Has interest in				
Television				
Movies				
Comics				
Radio				
Puzzles				
Gadgets				
5. Has imaginative play				
6. Makes collections				
7. Shows curiosity about differences between sexes				
8. Gangs-up with others on single child				
9. Is fond of team games				
10. Has best friend				

		yes	no	un-decided	comment
11.	Is antagonistic toward opposite sex				
12.	Responds to group approval				
13.	Responds to group disapproval				
14.	Accepts responsibilities for pets				
15.	Has diversified interests				
16.	Moves from fantasy to reality				
17.	Is member of a gang				
18.	Seeks independence in use of leisure time				
19.	Is interested in other people's ideas				
20.	Is conscious of adult role				
21.	Desires to conform to own age group				
22.	Observes limitations imposed by society				

CHAPTER III

INTER-PERSONAL RELATIONSHIPS

The teacher guides the development of inter-personal relationships between the child and those with whom he comes in contact. These relationships may be developed through individual counseling, group counseling, parent conferences, and behavioral controls. In guiding the child, the teacher will strive to help him develop the following acceptable behavioral patterns:

- Ability to develop purposeful behavior for self
- Ability to share in purposeful behavior with others
- Ability to stay with the group and to remain an integral part
- Ability to socialize appropriately
- Ability to comply with adult directions
- Ability to assess situations clearly and appropriately
- Ability to maintain action-specific energy at a controllable level
- Ability to show independence and self-reliance
- Ability to conform to behavioral patterns of age group.

SUGGESTED BEHAVIORAL CONTROLS

Behavioral controls for the minimally brain-injured child should be founded on an understanding of the child and his discipline problems. Many of these children have not developed the ability to internalize the control of behavior. As long as this condition of immaturity persists, behavioral control must come from some force outside the child. In school, that force is the teacher. The child must have faith in the teacher's ability to control his behavior and to provide the security that develops from such control. Within the framework of such security, the child can try out limits and develop internal controls.

Basically, what the child needs is a clear-cut definition of the situation and of the appropriate conduct expected. Thus, he can and will learn what conduct is permitted and what is not permitted without creating the emotional disturbance that demands punishment. He can then learn to generalize behavioral expectations. Many of the reactions of the child which are labeled as bad behavior are fear reactions to unfamiliar and frustrating experiences. Some controls that may prove to be effective are:

- Parental participation. Involve the parents at initial contact, suggest visits to the classroom, and seek to develop a spirit of mutual cooperation and understanding.

- Well planned routine. The teacher will retain firm control. The restlessness that can lead to behavior problems will be less likely to occur if activities are structured and well planned.

- Change of pace. When obvious signs of behavior problems are observed, a change of activity will often circumvent the developing problem or alleviate the condition from which it arises.

- Class participation in setting limits. Limits can be set by the whole class through class discussions. These limits can be better understood by the children when they have a part in setting them. Skillful guidance by the teacher and involvement of the entire class is necessary.

- Individual participation in setting own limits. A child may be led to understand his own problems through quiet private discussions with the teacher. Such discussions may prompt him to set his own limits.

- Employment of individual and group responsibility. Delegation of responsibility will give a child status in his peer group and will contribute to an improved self-concept. A sense of pride is thus encouraged and stimulated.

- Preparation of children for any deviation in routine. The children should be informed and prepared for any expected distracting break in routine. They should be told in detail what is expected of them in such a situation.

- Teacher example. The teacher sets the emotional climate of a classroom. A calm, orderly, happy teacher will inspire reciprocal feelings in her children.

- Teacher acceptance and approval. Children need the sense of being accepted by the teacher even when their behavior is being rejected and reprimanded. The teacher rewards good behavior with indications of approval.

- Peer example. It is natural to attempt to imitate the peers a child admires. An older child or the class leaders can often direct the behavior of the remainder of the group.

- Group pressure. Children strive for belongingness to other children, they will often punish much more effectively than the teacher.

- Conscious ignoring of misbehavior. Some impulsive behavior is to be expected of minimally brain-injured children. At times, the teacher may consciously refuse to see some of this behavior. Thus, the necessity for expected punishment is avoided; and the children, knowing that the behavior was observed, develop some insight into the teacher's understanding and acceptance. Feeling accepted, they can sometimes make an effort at self-control.

- Proximity to teacher. Some children exhibit a strengthening of control by being seated near the teacher. These children seem to reveal insecure feelings which are minimized by proximity.

- Voice. Voice quality can convey much of the teacher's approval or disapproval to the child. In general, a low, quiet voice creates an atmosphere of control.

- Facial expression. A genuine smile is one of the most effective of all disciplinary controls. A frown likewise can be easily interpreted by the children.

- Gestures. A gesture can range from a nod of approval to an order to leave the classroom. This method's effectiveness is also related to the absence of verbalization on the teacher's part.

- Eye to eye control. If a child appears to be losing control, eye to eye contact will sometimes bring about a positive reaction. At times the teacher may need to touch the child's face in order to establish this contact.

- Joking. A gentle teasing manner and "making light" of a potentially bad situation will often prevent the development of such a situation.

- Counting. This method helps the child who needs time to act, or needs time to decide upon a course of action. The delay is slight, perhaps a count of three, but the general result is to hasten compliance and provide a framework within which the child can operate without losing face.

- Opportunity to verbalize feelings. Every child should be given a chance to "talk out" his thoughts and feelings. This leads him toward a more realistic self-concept and firmer self-control.

- Use of total name of child. Calling the child by his full name may help him regain control of his actions.

- Release activities. Arts and crafts, musical and rhythmic activities, physical exertion, role playing, and other similar activities will act as a release mechanism for children.

- Withholding approval. Teacher approval is desirable to the child. Withholding approval of an action or mode of behavior will sometimes bring about conformity.

- Denial of privilege. The privilege denied should not be in the same area in which the misbehavior occurred. This could include missing recess or any activity the child particularly enjoys.

- Repair and make restitution. An emphasis on replacing or repairing that which is damaged or destroyed will lead to a social understanding of private property.

- Reap consequences of behavior. Allow the child to reap the consequences of his behavior. If he destroys crayons, he does without them. If he becomes unruly in the cafeteria, he does without lunch.

- Isolation for a brief time. A child frequently can be isolated for a period of not more than 20 minutes giving him an opportunity to relax and gain control.

- Physical intervention. This means of control may be a light touch, a firm grip, a paddling or bodily removing the child from the scene of misbehavior. The teacher can also hold the child's back to her body in a firm and restraining manner until the child is able to restore his contact with reality. Physical intervention must be used with caution so as not to create fear or hostility within the child.

- Removal of audience. A temper tantrum is effectively handled by removing the other children. They may be taken to another room. Without an audience there is little need for the display.

- Exclusion. If a child's behavior becomes too disruptive, he can be sent home for a portion of a day, or he may be excluded for several days. A child who represents danger to himself or to others, may be considered unacceptable for school attendance and permanently excluded.

Working with Parents

The importance of cooperation and understanding between the home and school to insure the opportunity for the minimally brain-injured child to realize his maximum growth and development is a recognized entity of the special program. Often parents find it difficult to accept the disability of minimal brain injury to their child. Parents who are able to accept the diagnosis of the child's condition may be confused and misinformed to such a degree that they are unable to establish a positive attitude toward the child or his problem. Thus, the teacher-parent conference is not just a time for exchange of information, but it frequently provides an opportunity for definite modification of the parents' attitudes and outlook.

Much valuable information may be exchanged over a period of time, with the teacher gaining facts, details, and insights from the parents which contribute toward the better understanding of the child. Thus, the parents and teacher can more adequately plan an educational program for the child. The parents will receive encouragement and a more complete sense of direction so that they will be better able to help their child at home.

Conference Planning

The conference needs to be carefully planned and scheduled at an appropriate and convenient time and place. The conference must be scheduled when the teacher is not responsible for his students. When possible, both parents are to be included. In setting up a conference, whether requested by teacher or parent, the purpose of the conference is to be mutually shared to provide each participant an opportunity for utilizing the time most effectively. The conference should be conducted professionally, but this does not preclude the element of warm human relations.

An effective conference is objective. All participants attempt to face the problems and issues involved, and discussion points must be non-judgmental. This conference must have its basis in complete confidentiality.

Teacher-parent conferences need to occur at frequent and regular stages of the child's development to provide definite information, evaluate progress, determine specific educational needs, and seek answers to individual problems. In the conferences the teacher and parents should always be purposeful - to exchange specific information about the child or some phase of his educational development. The conference must be positive in its conception and conclusion, listing some successes the child has achieved and stating some objectives that are within his immediate range of achievement. The conference can be productive in that both teacher and parents leave with new objectives and with new interpretations of behavior and achievement.

Soon after the conclusion of the conference the teacher will make a written summary which includes the purpose, time, and place of the conference and the persons in attendance. It also includes that which was accomplished, procedures which were recommended for future action, and lists any additional subjects that indicate need for subsequent conferences. A sample form to record the results of a conference is included in Appendix B.

Definite provisions must be made in the teacher's schedule for these conferences. The importance of the parents' keeping the conference appointment cannot be over-emphasized. By better understanding the child's needs, the participants can more adequately work toward meeting them.

Suggestions for the Teacher

In planning conferences, the following clues may be of help to the teacher as simple guideposts to effective conferences.

- Plan the conferences so that you will know ahead of time exactly what you want to communicate to parents and what recommendations you plan to make.
- Allow parents the opportunity to react to any suggestions or recommendations, to ask questions, and to discuss any plans.
- Be realistic and factual in your discussion and retain command of the situation.
- Be conservative in your statement of any improvement probabilities.
- Understand and try to accept parents' attitudes even if the attitudes are not appropriate to the situation.
- Do not minimize the problem in an attempt to alleviate parents' anxieties.
- Be familiar with resources available in the community in order to refer parents for consultative or diagnostic services, or for intensive counseling.
- Recognize your own limitations in advising with parents and admit it when additional assistance is needed.

The Teacher's Role

The role of the teacher in the parent-teacher conferences demands a carefully structured approach. In every action the teacher must present himself as a professional educator. He must recognize his own limitations and realize when the situation is beyond his province, and then make appropriate referral.

The teacher must be patient and expect some parental regressions from time to time. He must often assist parents to understand the limitations imposed by their child's problems and to help them develop a realistic set of expectations based on the potential strengths he may reveal. Reinforced with a genuine concern for the child and his problems, and with proficiency for meeting the multifaceted problems in his work, the teacher can expect, over a period of time, to guide the parents toward accepting a better concept of actual conditions.

Initial Parent Conference

When school personnel suspect that a child has a possible brain injury, extensive enough to warrant specialized assistance, the parents of the child are to be contacted and a formal conference arranged between the school personnel and one or preferably both parents. This conference should have several outcomes, the major one being the acceptance by the parents of the fact that their child is having educational difficulty. This first conference usually consists of a sharing of background data on the child, his activities, actions, and reactions both in the home and in school. Frequently, the parents will be in a state of anxiety, having recently been informed of their child's learning difficulty, and not yet aware of the impact which this will have on their lives. The tone of this conference can do much to direct the parent's thinking toward more realistic concepts. Avenues of action for the parents are to be outlined which include a description of the specialized instructional program designed for brain-injured children and how such a program can assist their child.

Individual Conferences

Conferences used most frequently are ones which involve reporting pupil progress to parents. Conferences of this type should be scheduled periodically, and be consistent with the local school policy. They serve as an adjunct to the regular report card, or take the place of it entirely, and are designed as a definite method of increasing understanding about the program as well as about the child.

Other conferences will arise from time to time and may be requested by either the teacher or the parent. These may be scheduled at the first indication of a new difficulty, or as a prevention of an anticipated difficulty. Any of the conferences may involve not only the teacher and parents, but any other professional person who may be working with the child and who may be in a position to present pertinent information. In some instances, the student may be allowed to be present for parts of the conference.

Group Meetings

Group meetings can be used effectively to increase home and school cooperation and understanding. The group meeting strives to get parents positively involved in working with the school, the community, and with each other. Parents of children with similar handicaps often can find a common working basis, can merge their interests, and can support efforts to provide for broader educational programs. From this blending of common interests, they can be encouraged to work with the total school program rather than with one special classroom, and to extend their activities into the community. Group meetings may be therapeutic for those parents who fail to understand their child's problem.

CHAPTER IV

SCOPE AND SEQUENCE OF A PUBLIC SCHOOL CURRICULUM

Structuring the Classroom and the Curriculum

Education is concerned with the modification of behavior and with the improvement of thought processes. Neither has precedence over the other and neither can be isolated from the other. Educators responsible for the development of programs for minimally brain-injured children must become familiar with the several problems that are likely to arise in the classroom. The group dynamics of behavior are combinations of the interacting behaviors of all of the individuals in the group. In order to control group behavior, the teacher must first recognize and evaluate the symptomatic characteristics of each child. The teacher's assessment of developmental deficits adds to the fund of information supplied to her by the placement committee report. Until specific deficits have been determined, it is not possible to plan an educational program to meet the needs of the child.

The program for minimally brain-injured children entails four major considerations:

- Reduction of stimuli in the teaching environment.
- Reduction of space within which the child operates.
- Structuring of everything in the child's school experience.
- Individualizing instruction to fit the needs of the child.

Information assembled through the assessment of behavior and the analysis of thought processes observed in the classroom should be studied to assist in determining adequate procedures and methods of instruction. The following suggested classroom procedures may be selected and adapted, when appropriate, by the teacher.

- Structure the total school program by establishing orderliness in classroom routine, maintaining sequence and control of activities, and providing firm and consistent discipline.

- Start at the level where the child is functioning successfully.

- Use a multi-sensory approach in teaching.

- Increase the stimulus value of the teaching materials when appropriate.

- Use color to aid in the organization of figure-ground, form, and space.

- Use a variety of activities of reasonable length and change pace frequently.

- Provide materials and opportunities for self-tutoring when possible.

- Lead the child toward independence through teaching compensatory ways of study.

- Provide daily for successful experience in some area.

- Encourage pupils to work toward specific goals.

- Use individualized instruction.

- Group children for instruction when possible.

- Allow for daily successes in group activities.

- Plan activities of short duration.

- Determine that the goals set are attainable.

- Recognize that a sense of humor is valuable to both teacher and pupil.

- Provide some experiences which lead to failure and help the child develop methods of coping with failure.

- Allow plenty of time to complete an assignment.

- Provide flexible plans--often the mood of the child dictates the lesson for the day.

SECTION ONE

DEVELOPMENTAL AREAS

MOTOR DEVELOPMENT

Children entering school are expected to have attained certain basic motor skills. Generally, the acquisition of these skills is developmental and sequential. It is this quality which makes it possible for the teacher to assess the individual child's level of motor development and to determine a point for beginning his training.

Normal growth and development in young children proceeds from gross motor activity to fine motor skills, integrating into specific motor skills. The list below suggests a sequential development of gross motor activities or those activities involving large body parts.

I. Gross Motor Activities

   A. Standing--good posture

   B. Body Image--to help develop spatial relationships

      1. Identification of body parts

         a. Learn names of body parts

         b. Learn appropritate placement of body parts

         c. A few activities to help reinforce learning

            - Imitation of movements
            - Angels in the Snow
            - Obstacle Course

2. Laterality--directionality

   - Walking on paper "street"
   - Chalk line walking
   - Walking beam
   - Stepping stones
   - Obstacle course--over, under, behind, around, squeeze through
   - See-saw
   - Chalk board activities
   - Cat walk

3. Balance

   a. Balance board

      - Simple balance
      - Balance and bounce large ball
      - Balance and bounce small ball
        - bounce and catch ball with two hands
        - bounce and catch ball with right hand
        - bounce and catch ball with left hand
      - Balance and throw at object
      - Balance and perform simple calisthenics

   b. Walking beam

C. Walking

1. Walking in straight line (individually)

   - Between guide lines
   - On balancing board
   - Over obstacle course with spaced obstacles

2. Walking in straight line (group)
    - In single file at spaced intervals behind classmates
    - In double file
3. Walking in circle
    - Walking clockwise; walking counter-clockwise
    - Walking toward center of circle
    - Walking away from center of circle
4. Walking up and down stairs
    - Upstairs--one step at a time
    - Upstairs--alternate feet
    - Downstairs--one step at a time
    - Downstairs--alternate feet

D. Marching
1. Marking time in place
2. Marching to beat--use records or piano
3. Marching to music--use records or piano
4. Marching in single line
5. Marching in double line
6. Halting quickly after an activity
7. Clapping with above activities

E. Running
1. On signal
2. In straight line
    - In one direction; then halting
    - In one direction and returning
    - Line games (i.e. Red Rover)

3. In circle clockwise; counter-clockwise
4. Obstacle course
    - Around and between obstacles
    - Follow the leader around and between obstacles

F. Gliding and sliding
1. Using foot motions
    - Side step
    - Forward step
    - Backward step
    - Folk games
2. Using hand motions
    - Finger painting
    - Erasing, dusting, cleaning

G. Climbing
1. Jungle gyms and ladders with assistance
2. Jungle gyms and ladders without assistance

H. Hopping
1. On both feet
    - Alone
    - In a line
    - Leap frog
    - Jump rope
2. Hopping on one foot
    a. On dominant foot
        - Singing games
        - Jumping rope

- b. On either foot
    - Hop Scotch
    - Jump rope

I. Skipping

J. Bending

- 1. From waist (legs straight)
- 2. Deep knee bends
    - Jack-in-the-Box
    - Simple calisthenics

K. Throwing

- Bean bag
- Balls

L. Catching

- 1. With two hands
    - Balloon
    - Large ball
    - Small ball
    - Bean bag
- 2. With one hand
    - Balloon
    - Large ball
    - Small ball
    - Bean bag

M. Kicking

- 1. Kicking ball at random
- 2. With right foot; left foot

    - Simple calisthenics
    - Dancing games

N. Swinging and extending arms

  1. One arm
      - Jump rope (group)
      - Gym rings
  2. Both arms
      - Gym rings
      - Jump rope (individual)
  3. Alternate arms
      - Square dancing
      - Cat walk
      - Jungle gym

O. Pushing and Pulling

  - Shuffle board
  - Swings
  - Push toys
  - Pull toys
  - Tug o'War

P. Rhythm work with music

  - Hopping
  - Skipping
  - Dancing
  - Painting

II. Fine Motor Activity and Eye-Hand Coordination

The minimally brain-injured child needs extra practice time and sequential development in order to achieve these physical skills. Some suggested activities are listed below.

A. Drawing, coloring

1. Direct attention to correct method of holding and manipulating

2. Free form drawing

3. Structured coloring

- Within heavy line

- Within light lines

B. Painting

1. At an easel

2. Detailed pictures at a table

C. Pasting

1. Large areas

2. Spot pasting

D. Grasping and squeezing

1. Drawing

2. Pull toys

3. Chalk board activities

4. Clay

5. Silly putty

6. Hammering

E. Cutting and Folding

1. Correct method of holding and manipulating

2. Cutting paper at random

3. Cutting paper on straight lines

4. Cutting paper on curve line
5. Cutting other textures (cloth, string)

F. Grasping (thumb and forefinger)

1. Assembling puzzles
2. Pegs into board
3. Stringing beads
4. Fitting nested blocks
5. Using clasp clothes pins

G. Manipulating fastening devices

- Lacing
- Zipping
- Buttoning and unbuttoning
- Snapping
- Buckling
- Tying
- Set-in lock
- Slide bolt
- Hook and eye

H. Turning and twisting

1. Door knob
2. Faucet handle
3. Telephone dial
4. Wind-up toys

I. Developing speed and coordination of several different movements by

- Playing jacks

- Running relays
- Playing tether ball

J. Writing--(Refer to the section on Writing)

III. Specific Motor Skills
A few suggested activities are listed below.

A. Games--readiness skills

- Dodge ball
- Tag
- Tether ball
- Kick ball
- Touch football
- Marsden ball
- Keep-a-way
- Relay races
- Blind Man's Bluff
- Wolf Over the River
- Jumping rope

B. Individual sports

- Races
- Broad jump
- High jump
- Baseball throw

C. Team sports

- Baseball
- Football (tag)
- Relays

PERCEPTION

The term perception refers to the interpretation and integration of sensations into meaningful relationships. The child whose minimal brain injury affects his school work adversely may have impaired auditory, visual, kinesthetic or tactile perception or any combination of these. Perception is directly related to the development of language, to behavior, and to conceptualization. Most children with minimal brain injury are able to hear and to see. Their hearing and vision are usually not organically defective in acuity, but perception is faulty. The sensory messages being transmitted are not interpreted and integrated within the brain into meaningful symbols. A child does not understand because of imperception or impaired perception. If there is an impairment in tactile perception, the child is unable to know or identify an object by touch.

There are varying degrees of perceptual disorders. However, any degree of imperception in the visual, auditory, tactile or kinesthetic areas may be a forerunner to a learning problem. The problem in imperception must be recognized early and appropriate corrective measures taken. The teacher, in some measure, can determine deficits in perception through the use of assessment instruments and by correctly interpreting a psychological report.

Some suggested activities to be used in training impaired perception will be given according to areas in the following lists.

I. Visual perception

Visual perception abilities vital to academic learning are eye-hand coordination, figure-ground discrimination, form constancy, position in space, and spatial relationships. The following activities are only a few of the many possible for use in training visual perception.

A. Watching moving things

- People walking
- Cars going down street
- Child's own feet as he walks
- Movement of a ball in a game of catch
- Ball as it rolls across floor to child; away from child
- Teacher made activities involving moving objects

B. Stringing beads

- Same color and shape
- Different colors all same shape
- Different colors and different shapes

C. Sorting by color

- Cubes according to color
- Squares of paper by color
- Groups of same color regardless of shape

D. Sorting by shape

- Cubes according to shape regardless of color
- Paper forms of square, circle, triangle into like groups

E. Sorting by color and shape

- The same geometric shape of the same color into groups
- Cubes of same shape into groups of same color

F. Sorting by size

- Paper forms according to size (big, little, graduated)
- Objects according to size

G. Developing gross discrimination of likenesses and differences

- Geometric shapes
- Animals
- Trees
- Trucks

H. Developing finer discrimination of likenesses and differences

- Find figure that is different
- Find letter that is different
- Find things that are alike

I. Matching

- Objects
- Pictures
- Letters
- Numbers
- Words
- Words to pictures

J. Tracing solid forms

- Hands
- Feet
- Body
- Stencils
- Objects

K. Cutting and pasting

- Cut on heavy straight line
- Cut on heavy curved line
- Cut simple picture which is outlined in heavy black line
- Cut simple picture without line
- Paste pictures onto another paper

L. Assembling puzzles

- Simple wooden puzzles
- Teacher-made puzzles
- More complex commercial puzzles

M. Copying peg board designs

- Copy teacher-made design onto own board
- Make own design; copy onto another board

N. Copying block designs

- Teacher made designs to be reproduced with cubes
- Teacher made towers to be reproduced with cubes
- Copying parquetry block designs

O. Copying material

- From book on desk
- From chart placed near desk
- From chalk board at a distance from desk

P. Training for body image

- Use mirror and identify body parts as they are touched
- Use dolls and name parts
- Use animals and name parts
- Use teacher made puzzle of body, of head
- Use commercial puzzles of people
- Touch and name body parts without mirror
- Build body from clay; identify parts during process of building
- Draw people
- Draw around another child, complete and name parts
- Play games involving body movements and naming

Q. Relating distances of objects.

Which is nearer--desk or chair? Let him actually get the "feel" of his body as it relates to distance.

R. Practicing visual memory

- Place covered objects on table; expose for a few seconds. See how many objects a child can remember. As soon as he gets all, increase number of objects.
- Place group of objects on table, then remove one and see if child can tell which one is removed.
- Make a simple drawing--allow child to look for a few seconds and draw.
- Describe a child or object in a room. See if children can guess who or what it is.
- Jig Saw Puzzles
- Count objects--first with the fingers. Then with the eyes alone.
- Expose his name, cover and let him write it.

II. Auditory perception

Auditory perception develops from simple awareness of gross sounds to awareness of fine speech sounds and leads to auditory memory. Some auditory perception training activities are listed below.

A. Having child make motor response to gross sound

- Child places object in box when sound is heard
- Child stands when sound is heard
- Child claps or knocks when identity of sound is made

B. Having child identify gross sound

- Whistle
- Bell
- Drum
- Clap
- Knock

C. Imitating sounds using instruments

- Teacher produces sound; child repeats pattern

D. Identifying and imitating contrasting sounds

- Teacher produces sound with whistle, marble, ball
- Child imitates sound

E. Identifying environmental sounds

- Door closing
- Knock on door
- Footsteps
- Whistle
- Car motor
- Truck motor
- Birds singing
- Dogs barking
- Papers rustling
- Coins jangling

F. Imitating speech sounds

- Nonsense syllables
- Words

G. Listening games

- Child plays make-up games following directions
- Child listens without seeing
- Child repeats rhythm that was heard
  - Bouncing of ball
  - Tapping of pencil
  - Clapping of rhythm

- Counting

H. Contrasting sounds

- Produce loud then soft note on piano
- Walk with heavy step then light step
- Speak loudly then softly
- Produce high then low note on piano
- Speak in, squeaky voice then in deep voice
- Play a series of notes rapidly on piano then slowly
- Walk rapidly then slowly

I. Following simple directions; one direction at a time

- Come here
- Sit down
- Stand up

J. Following more complex directions (often needs repeating)

- Get up and bring me your book
- Go to the table and get your red pencil
- Close your book, come here, and take this paper to the table

K. Listening activities (to be used frequently)

- Stories
- Poetry
- Rhymes
- Music for pleasure
- Musical games and activities

III. Kinesthetic and tactile perception

Kinesthetic perception training includes body image and awareness of self related to space. Tactile perception involves development of the sense of touch. Activities helpful in developing kinesthetic and tactile perception might include the following:

A. Sorting degrees of quality by feeling

- Have child feel different textures; name them
- Have child identify different textures by touch only (i.e. velvet, sandpaper, toweling, foil)

B. Identifying objects by feeling

- Child feels object; names object by seeing
- Child feels object; names without seeing (i.e. spoon, fork, cup, glass)
- Child identifies objects that are wet, soft, sticky, sharp, rough, smooth

C. Recognizing degrees of temperature by touch

- Child feels hot or cold objects; is told if hot or cold
- Child feels hot or cold objects and decides if hot or cold without seeing

D. Awareness of body parts

- Touch and name body parts using mirror
- Touch and name body parts without mirror
- Use games and musical activities involving use of and naming of body parts
- Use dolls and other children to name body parts
- Assemble puzzles of people
- Call attention to the child's shadow

E. Using playground equipment

- Cat walk
- Slide

- Ladders
- Walking beam
- Balance board
- Jungle gym

F. Learning directions

- Up - down
- In - out
- Right - left
- On - under
- Above - below

G. Following obstacle course

- Child goes in, out
- Child goes under, over, on
- Child squeezes through
- Child walks on paper street, crack, tape
- Child crawls through, over, under, on

There is a close relationship between perception and concept formation. Concept formation occurs when images from the realm of perception come together under a common name. When several images are grouped together according to a common factor which becomes the label or name for a class, conceptualization is taking place. Concept formations, which follow perception, may be developed or strengthened through the activities which require the child to describe and sort objects or pictures and finally ideas into groups. The child may be asked to sort pictures or objects according to categories. Conceptualization is followed by generalization. A child does not really learn until he has learned to generalize a concept as it applies in many of its settings.

LANGUAGE

A normal child develops language because the peripheral nervous system, the central nervous system, and the psychological processes are intact and functioning. It is through the peripheral nervous system that the individual receives stimuli: hears, sees, feels, tastes, smells; through the central nervous system he integrates the stimuli; through the psychological processes he perceives his relationship to his environment.

At birth a child begins to receive stimuli from within himself and from his environment. As more stimuli are received, he develops meaningful relationships. These relationships are nonsymbolic but do have meaning to the child. Nonsymbolic relationships are the basis on which inner language is developed. Inner language has been defined as the use of language symbols for purposes of inner life or thought. There is much to be learned about both the nonsymbolic period and the inner language period. It is important to note, however, that both these periods are important because they are the basis of continued language development.

Stimulated by auditory patterns from humans in his environment, the child slowly begins to associate symbolic language with the nonsymbolic meanings and inner language he has established. As these associations are made, receptive language, the ability to understand others, develops. The average child must be exposed to spoken language for about six months before he will begin to understand the speech of others.

The next period of symbolic development is that of expressive language. Around eight months of age the average child begins to utter single words. By attaching verbal symbols to objects and actions he begins a more accurate control of his environment.

The sequential development pattern for language is: (1) nonsymbolic meaning, (2) inner language, (3) receptive language, and (4) expressive language.

Each of these sequential periods overlaps in the developmental period. It has been suggested by some that even adults who have acquired an effective use of all language levels continue to use nonsymbolic and inner language in certain situations.

Learning to understand auditorally and to speak verbally are two language processes that are learned by the normal child without formal teaching. This, however, is not true of reading and writing. These forms of language are graphic and represent the speech that man hears and speaks. Both reading and understanding speech are forms of receptive language. Writing and speaking are forms of expressive language.

Reading develops when the child is taught the relationship between the graphic symbols he visualizes and the verbal symbols he hears. In writing, the child must learn the graphic symbols which represent sounds and combinations of sounds that form words. He must also learn the motor patterns which produce appropriate graphic symbols.

Thus in the process of language we have first the development of inner language, then auditory understanding leading to verbal production, followed by graphic symbol understanding, and finally graphic symbol production.

These developmental steps have been oversimplified and it is to be understood that they are much more complex than presented here. The purpose of the oversimplification is to emphasize that since the normal child develops his total language process in an orderly step-by-step process, the teacher must be prepared to teach the minimally brain-injured child with language problems in an orderly step by step process with well organized methods and techniques.

A child with a minimal brain injury may present a break-down at any stage of language development. If he has little or no inner language, he will have great difficulty relating to his world. If a break-down occurs on the receptive level, measures must be taken to develop comprehension of the spoken word. The child must be taught to associate the verbal symbol (spoken word) with the object, idea, or emotion the symbol represents in reality. A child with a problem on the receptive level may have no impairment in hearing acuity but rather one in perception. He "hears" the sound enter the auditory tract, but it is not integrated into something meaningful. This child often is mistaken for a child with a hearing impairment for he may ignore sound since it is not meaningful to him. He must be taught to "hear" on a listening, identifying, and discriminating basis.

Some children develop inner and receptive language but exhibit limited or no oral speech. These children have a problem in expressive language which may extend, and often does, into language that is read and that which the child writes. Such a child will be able to understand what is said to him but will be limited in his speaking vocabulary. Some children may have speech but it is neither appropriate for their age nor meaningful.

Activities for the development or strengthening of basic language skills are founded on three principles: inner, receptive and expressive language. The examples given are for clarification of the principles only. Teachers should develop their own activities based on the principles.

I. Inner language
The child needs to understand the functions of his environment as they relate to his life. As an example, a child may

not understand or be able to utter the verbal symbol "spoon," but the understanding of a spoon's function in his environment is an indication of the use of inner language. The ability to appropriately "use" and "relate to" his environment, non-verbally, must be taught. Some examples:

- Feed a doll with a toy spoon.
- Comb a doll's hair with a toy comb.
- Arrange toy furniture in the rooms of a doll house.
- Place a doll in a toy crib.
- Push toy cars and trucks around to make them go.

II. Receptive language

The child must be able to understand the language produced by others in his environment. The child must understand the appropriate language symbols which represent the object, action, function, or idea in a given situation. Some examples:

- Colored blocks for teaching basic color words; teacher names color block, pointing it out (repeats over and over).
- Printed form of work presented if child is ready.
- Letters of printed form to be traced; use sandpaper, clay, velvet.
- Toy objects which are placed before the child and named over and over for him.
- Commands to teach verbs: jump, hop, skip, stand, sit down; actually do the activity involved using verbal symbol which expresses it over and over.
- Objects matched to pictures; match pictures to action; match written words to objects; actions, pictures.
- Reading development (refer to section on Communicative Arts).

III. Expressive language

The child must be taught to use language symbols correctly so that when they are used, meaning will be conveyed to others in this environment. Some examples:

- Accept any vocalization meaningful to the child and use as basis of communication.

- Have child name miniature objects, then pictures with the teacher repeating correctly the name.

- Have child answer simple questions.

- Develop writing (see section on Communicative Arts).

When developing techniques and methods for each developmental language area, a determination ought to be made regarding the level at which the child is functioning. The activities for a given child may begin with simple techniques, gradually increasing in difficulty as progress is made.

Minimally brain-injured children with deficits in language must have a strong language and speech development program. Much of the teaching should be directly related to this area and geared to the language level of the child. These children need simple, direct explanations from the teacher. For children with receptive problems, the fewer words used to give directions, the more likely that understanding and the proper response will occur. A continued program of naming objects by the teacher using clear, well articulated speech will reinforce and build vocabulary both on the receptive and expressive levels. It is helpful to use a general but established pattern of commands, directions, or instructions in the classroom at least until the children understand and are comfortable in the situation.

Additional help in the development of speech and language should come from the speech therapist. It is the job of this specialist to work closely with the teacher in developing language and speech, using as a nucleus the vocabulary being used in the immediate environment of the home, school, and neighborhood. It should be kept in mind that oral, meaningful communication precedes perfectly articulated speech, and the main job of the speech therapist is to develop usable language and verbal communication first. Language and speech therapy may be needed at all educational levels but is mandatory at the preschool and primary levels. Children in need of this service should be seen for a minimum of three sessions a week, the length of the sessions dependent upon how much intensive work the child can tolerate.

SOCIAL AND EMOTIONAL DEVELOPMENT

Minimally brain-injured children follow the same processes of social and emotional development as do other children. (See bibliography entry No.   .) Just as any handicap may produce emotional difficulties for a child, so may minimal brain injury.

The social and emotional growth of a child begins long before his first school experiences and is extended and strengthened or weakened with each succeeding year. He lives in an environment of change and adaptation. The child learns to cope with changes in environmental demands through experience and through integrating experience into behavior patterns.

The minimally brain-injured child has a particularly difficult time in learning to cope with changes in his environment. The rigidity and the perseverative patterns of his behavior are inherent in his handicap and do not change readily. The frustrations of living in a world which he does not perceive adequately do not contribute to the development of an acceptable self-image. Efforts to improve his social behavior may be regarded by him as evidence that he is unacceptable. Teachers and parents frequently attack the behavior and do not try to understand the dynamics of such behavior.

The child must be helped to accept himself as he is or as he can be. He should learn to deal with his handicap in terms of reality. He should develop satisfying contacts with other people. He should develop personally, tolerable and socially acceptable ways of living with people.

The teacher, with the help of the psychologist, can determine the level at which the child operates socially and emotionally. The teacher can then plan a sequential and developmentally oriented program for providing experiences which will help him learn to cope with increasingly difficult and complex problems of social living and self-acceptance.

All of the following traits are included throughout the school years but are extended and developed in depth as the child grows and is ready to assume more mature, acceptable, and comfortable (for him) relationships with the people around him.

I. Traits of social and emotional growth

  A. Cooperation

    - Sharing
    - Taking turns

- Fair play
- Developing tolerance
- Courtesy and manners

B. Responsibility

- To parents
- To property
- Accepting limits
- Accepting directions
- Knowing and observing rules
- Executing small duties

C. Adaptability

- To accept limits
- To conform to social standards
- To tolerance
- In meeting daily problems
- Accepting failure and learning to try again
- Accepting criticism
- Ability to maintain a sense of humor

D. Sense of security

- Freedom from fear
- Recognition of success
- Capacity for giving and accepting affection
- Independence

E. Self-control

- Appropriate behavior for situation
- Moderation

- Promptness
- Good spectatorship and sportsmanship

F. Spiritual values

- Ethical and moral concepts
- Contributing to society
- Ability to reach self-centered goals

II. Activities to assist in developing social and emotional growth

All activities in the school curriculum are closely interrelated in varying degrees to social and emotional growth and development. The following activities are only suggestions in brief and should not be considered as the only worthwhile activities to develop these qualities.

A. Games

- London Bridge
- Simon Says
- Team games

B. Lunchroom activities

- Orderly standing in line
- Clean up

C. Classroom duties

- Follow leaders (as in line)
- Following teacher directions

D. Housekeeping

- Care of personal property
- Clean up after activities

E. Dramatics

- Creative play

- Dramatic readings
- Participation in assembly and school programs

F. Community helpers
  - Unit studies
  - Field trips

G. Field trips
  - Behavior when traveling outside school
  - Group planning and evaluation
  - Thank you notes

H. Group projects
  - Cooperating with others in art projects
  - Safety patrol
  - Ground clean up

I. Music
  - Appreciation
  - Recreation

J. Parties
  - Planning
  - Patriotism and citizenship
  - Party behavior
  - Assuming responsibility for serving and clean up

K. Free play
  - Getting rid of agressions through gross motor activities

- Opportunities for children to involve those less able

L. Caring for pets and plants

  - Developing responsibility for living things
  - Understanding of health and hygiene

M. Recordings

  - Purposeful listening-understanding of animals and people
  - Recreational listening

SECTION TWO

ACADEMIC AREAS

COMMUNICATIVE ARTS

The communicative arts involve all the language activities which help the child to acquire information, to think clearly about problems, to express his thoughts and feelings, and to communicate effectively with others. The various aspects of the communicative arts, listening, speaking, reading, writing, and spelling, serve as tools for learning. They are the special tools which a child must learn to use effectively in order to communicate.

Language functions in all areas of living and learning in society. It is a part of the whole curriculum, not a subject matter field; therefore the teaching of oral and written communication permeates the entire program of the school. The language skills are introduced and emphasized in the preschool and primary grades, but perfection is by no means achieved in the early grades. All levels of instruction should assume the responsibility for proper development and guidance of all phases of the individual's skills in effective communication.

Regardless of how the communicative arts may be broken down for instructional purposes, the resulting segments are all highly interrelated; it is not possible to keep them from being integrated and merged. Rarely do any of these skills function independently, although emphasis may be placed upon one skill at a given time.

A specific differentiation in presentation is unnecessary as long as each area receives the needed emphasis at the appropriate time and stage of development. Through adaptations of instruction to the learning abilities and disabilities of the minimally brain-injured child, and through application of special methods and good teaching devices, it is possible to develop these skills to a high level of refinement.

LISTENING

Listening is a complex process that involves considerably more than the mere physical act of hearing. It includes hearing, attending to, recognizing, comprehending, and reacting to spoken language; and, in a broader sense, to all auditory stimulation. Listening is concerned with the interpretation and integration of auditory stimuli into meaningful symbols. The brain-injured child often has a listening disorder.

As the child progresses and develops better auditory discrimination, the process of listening becomes more complex. Listening, like reading, is a process of associating meaning with symbols. In both cases the child's ability to understand depends on the depth and variety of concepts, word meanings, and language skills which he has developed. Since experience is the basis for building meanings and concepts, it is essential that the child be given opportunities to observe, explore, and to talk, as well as to listen.

I. Factors that influence listening

As the child develops the habits, attitudes, and thought processes fundamental to good listening, he requires careful and continuous guidance on the part of the teacher. Some important factors that influence listening, skills to be developed, and activities to improve listening follow:

A. Neurological condition of the central nervous system

B. Physical, social, and psychological environment

C. Physical condition of the organs of vision, hearing, and speech

D. General physical health

E. Emotional maturity

F. Mental ability and maturity

G. Richness of experience

H. Depth and variety of concepts

I. Skill in language usage

J. Speaker's characteristics

II. Listening skills and habits to be developed

The importance of preparation for the listening experience cannot be over emphasized. How much the child benefits from what he hears depends largely on his own readiness to listen. Some activities for improving listening may include:

A. Listening to

- Nursery rhymes
- Poetry
- Fairy tales and other simple stories
- Other children
- Greetings (good morning, who are you) and making adequate response
- Conversations
- Group sharing sessions of "show and tell"

B. Following directions

- Directions for body movements
  - Get up
  - Sit down
  - Touch right ear with left hand
  - Simultaneously hand clapping with teacher
  - Responding to audio-motor recordings
- Directions to be read by students and followed by other students
- Directions for playing games
- Oral arithmetic problems
- Giving daily assignments
- Recalling directions in proper sequence

C. Listening to the end

- To see if the story ends "RIGHT" (Discuss)

- To listen for effective endings in child's stories or reports
- To the completion of oral instructions preceeding the initiation of independent work

D. Listening for information

- Listening to taped "live" reports
- Recalling information from movies or recordings
- Listening to individual reports and announcements
- Listening to daily news and/or announcements
    - Inter-com
    - Radio - T. V.
- Listening to oral reading of newspaper or magazine articles
- Listening to speakers and school programs

E. Noting details

- By listening to announcement to remember the five "W's"--What? Who? When? Where? Why?
- By listening for specific purposes announced in advance
- By giving short answer quiz after story or report
- By discussing how main points in a story are supported or reinforced

F. Listening for appreciation

- Listening to recordings of dances, songs, stories, poems
- Attending "live" performances
- Listening to stories and poems read orally
- Listening to sounds of nature
- Listening to other children explain activities

- Attending plays
- Listening to radio and television programs

G. Getting the main idea

- Selecting titles to stories
- Selecting topic sentence
- Writing headlines; telegrams

III. Evaluation of listening skills

A. Through child's illustrations of descriptive stories or poems

B. Through less repetition of directions by teacher

C. Asking of pertinent questions by children

D. Parent's comments on children's work

E. Analysis of daily work by teacher

F. Performance and interest in activities

G. Child's verbal or oral responses

H. Group evaluation and discussions

I. Results of tests

- Teacher made
- Standardized
- Observation

SPEAKING

Speaking is part of expressive language. When the child enters school it may be necessary for the child to be taught how to speak meaningfully. Speaking and listening are closely related. Many of the activities used to teach a child to listen adequately can also be used in teaching him to speak. Suggestions for other activities follow. (Also see section on Language Development.)

I. Answering

The answers may develop from one word answers to phrases and then complete sentences

A. Greetings

- Good-morning
- Hello
- Good-bye

B. Identification

- What is today?
- Who are you?
- What is your name?
- Where do you live?
- Where do you go to school?
- How old are you?
- What is your father's name? Mother's?
- Do you have any brothers or sisters?
- Do you have a dog or cat?
- Body parts - use
- Articles of clothing - when used, who wears
- Colors

II. Building stories orally - teacher writes

A. Experiences

1. Group experience stories--Recall the experience and develop it through the use of the five "W's"
2. Individual experience--Child learns to tell experience in sequential order

B. Make-believe

- Teacher begins - child completes

- Child begins - another completes
- One child tell story

C. Original stories--Develop through presentation of a picture having

- Much detail and containing suggestions
- Little detail and containing little suggestion

III. Conversations

READING

Reading is a developmentally oriented language skill which evolves from a series of physical, psychological, neurologically, emotional, and social readinesses. Its origin lies far below the age of beginning school attendance. If a child is to be a successful reader, he must develop adequate motor, perceptual, and language skills. A minimally brain-injured child is not likely to have acquired sufficient foundation in readiness in these areas to allow for ready acquisition of reading. Compensatory teaching skills must be used to help him develop the ability to read.

Regardless of the age of the child the basic developmental skills must be acquired before reading takes place.

I. Motor Development

A. Normal growth in young children advances from gross motor to fine motor. (Refer to the section on Motor Development.)

B. Left to right development movements

- Learn right and left through games
- Follow sequence pictures from left to right
- Put sequence picture story in order left to right
- Make chalk board movements from left to right
- Do drawing activities with chalk, paint, crayon, or pencil on large paper from left to right

C. Body image

- Identification of body parts
- Distinguishing left from right
- See section on Motor Development

D. Spatial relationships

Spatial relationships is the ability of a person to perceive objects in relation to himself and to each other. Adequate perception of spatial relationships is important in academic learning, especially in arrangement of numerals, letters, and words.

Only a few suggested activities are listed to give the teacher some ideas for training.

- Use three dimensional objects and have child place one object in front of, behind, on, above, under, or beside another object.
- Use a peg board and give verbal instructions for the child to arrange the pegs in front of, beside, behind, etc.
- Have the child copy block design using cubes.
- Have the child copy from a drawn pattern of a block design.

II. Visual Development

Adequate visual development is vital for reading activities. Visual acuity as well as visual perception must be adequately developed. It is possible to correct many acuity problems with lenses and/or treatment. Every child who is suspected of having a vision problem should have his eyes checked by a competent eye specialist.

Special training is needed for the child who has defects of visual perception. Difficulties related to visual aspects of reading might include:

- Eye strain
- Lack of precision in discrimination of complex visual patterns
- Lack of precision in discrimination of spatial orientation of patterns.

III. Auditory Development

Each child who is suspected of having a hearing loss needs to have a hearing evaluation by a competent specialist. In some instances the child who has a hearing loss can be helped. The child who has difficulties in auditory perception will need extra auditory training to correct or improve his faulty perception. If his auditory problems remain uncorrected, he will probably experience many difficulties in learning to read correctly.

Difficulties related to auditory aspects of reading might include:

- Lack of perceiving speech sounds
- Lack of precision of temporal sequence of sounds

IV. Language Development

A. Listening

   1. Strengthening the attention span
   2. Following directions
   3. Gaining information
   4. Manners in listening
   5. Identification of outside sounds
   6. Identification of teacher made sounds

B. Speaking

   1. Increasing vocabulary
   2. Expressing thoughts clearly
      - Using complete sentences
      - Using enough volume to be heard
   3. Interpreting correctly and making appropriate response
   4. Taking part in class planning
   5. Telling something of interest
   6. Having good posture while speaking

7. Introducing people

8. Using the telephone

9. Choral speaking

C. Story telling

1. Told by teacher

2. Told by children

3. Use many pictures to stimulate children's imagination while stories are being told

4. Read stories; children re-tell

5. Dramatize story after hearing

6. Use puppets to re-tell story

7. Help children learn to tell stories in sequence without rambling

V. Experiences

Each child will enter school with varying experiences. Some will have an extensive background of experience while others will have a very meager background. It will be the responsibility of the teacher to determine the needs of the child; and, when necessary, to provide essential concrete experiences in social living.

A. From home

- Family
- Pets
- Activities of home

B. From immediate neighborhood

- Houses
- Families
- Playmates
- Animals

    - Stores
    - Schools

C. From social activities

    - Church
    - Trips
    - Family gatherings
    - Parties

D. From travel

    - In town
    - To country
    - To other cities
    - To other states

E. From special events

    - Zoo
    - Circus
    - Movies
    - Parties
    - County fairs
    - State Fair
    - Plays--musicals

F. Ways to fill in lags in experiences

    1. Field trips
    2. Films and film strips
    3. Animals and plants in the classroom; study of each
    4. Stories read by teacher
    5. Many picture books

G. Recording of experiences

1. Discuss
2. Develop story
3. Teacher writes on board
4. Teacher copies to chart
5. Individual books can be made
6. Illustrations by children

VI. Readiness materials provided by school

A. Reading readiness books

B. These books are developed sequentially and aim at developing certain pre-reading skills:

1. Using pictures to tell stories and organize thinking
2. Developing skills for listening and interpreting
3. Using the context and auditory clues
4. Developing auditory discrimination
5. Developing visual discrimination
6. Developing left to right sequence

C. Ways to use

1. Take much time to present each part
2. Cut each page apart and develop a little at a time
3. Relate to actual experience of child
4. Adapt to fit child's needs
5. Repeat same activity with teacher made materials. One presentation is often not enough to assure understanding
6. Follow sequence of books with many teacher made materials

7. Remember that it may take a whole semester or longer to develop readiness to read.

The transition from readiness to actual reading may possibly be slow. A means of transition can be accomplished with the experience charts that are developed during the readiness period. These charts can continue to be an important part in the developmental reading program.

Experience chart reading

1. Developed around classroom experiences or field trips.
2. The children build the stories themselves.
3. The teacher guides the development of the chart so that a basic vocabulary is included.
4. The teacher records on the board using exactly the words the children use.
5. Reading of the story from the board after completion.
6. Teacher copies to chart paper.
7. Children illustrate story.
8. The stories can be duplicated onto smaller paper and bound into individual books for each child.
9. Reading and reviewing charts and "books."

After the children have mastered a basic vocabulary and seem to be at ease with reading, actual reading in the pre-primers can be begun. For older children, the chart reading can be continued until a sufficient vocabulary has been mastered to insure success in reading from a more advanced book. The basal reader approach is to be tried first. With careful presentation and much reinforcement through multi-sensory materials, many of these children will be successful.

Since reading is such a complex process, the teacher will need to be familiar with various methods of teaching reading. Methods of teaching the minimally brain-injured child are geared to the child's perceptual deficits. No one method or technique may be successful for all children. The teacher should try a variety of methods until she finds one that is effective for each child. (Refer to the Bibliography for specific methods.)

WRITING

The difficulties in motor coordination, which are believed to be an integral part of the minimally brain-injured child's problem, sometimes affect writing skills. Deficits in gross motor, visual-motor, and visual perception need to be assessed and adequate training provided before formal writing is attempted.

Authorities have differing opinions on the teaching of manuscript and cursive writing. A number of special education authorities are of the opinion that cursive writing has more advantages. Regardless of which is presented first, the child must have adequate gross motor and fine motor development.

The following is a sequence of skills and suggested activities or procedures for teaching writing:

I. Large muscle work

   A. Drawing large circles and straight lines at chalk board

   B. Drawing within and outside of large and small cardboard shapes, thumb-tacked to a board of an easel

   C. Tracing very large letters, figures or shapes

   D. Using a guiding device to make straight lines

   E. Tracing directional lines using different colors

   F. Painting words or numbers on large paper with large brush

   G. Chalk board activities

II. Small muscle work

   A. Folding

   B. Cutting

   C. Dealing and holding cards

   D. Block building (large and small blocks)

   E. Picking up things (pegs, paper, beads)

F. Tracing

- Stencils
- Colored short vertical lines on paper
- Simple abstract lines
- Large numbers
- Large letters
- Rhythmically in air
- On chalkboard with finger
- Sandpaper letters
- Sand letters
- With fingers in box of dry sand
- With fingers in box of wet sand
- With hand and finger paint on oil cloth, plastic, paper

III. Writing

A. Paper

- Specially lined at first
  - Sight saving paper
  - Teacher lined paper
- Colored
- Unlined paper

B. Writing tool

- Large crayon
- Small crayon
- Colored felt pens
- Primary pencil

  - Regular pencil
  - Pencil through small ball or spool
  - Pencil wrapped with clay or rubber band
  - Chalk in holder

C. Position of body

D. Learns to write all letters of alphabet in given order

E. As letters are introduced, all combinations must be sounded.

F. Own name; names of classmates

G. Reduces size of writing

H. Mechanics

  - Simple sentence development
    - Through the use of blocks
    - Through the use of cards
  - Capitalization
  - Punctuation
  - Paragraphing
  - Outline

I. Correspondence

  - Friendly letters
  - Invitations
  - Introductions
  - Thank you notes
  - Greeting cards
  - R. S. V. P. communications
  - Address book, account book

- Business letters
  - Asking for interview
  - Applying for a job

J. Creative

- Experience stories
- Paragraphs
- Book reports
- Stories, poems, plays

SPELLING

Spelling, like reading, is a developmental process. The children must have adequate visual, auditory, and motor development before they can spell successfully. Some specific spelling principles such as knowledge of syllabication, word analysis, prefixes, and suffixes are also necessary in learning to spell.

Spelling becomes necessary when children desire to record their ideas and experiences. Words which are used more frequently will determine the spelling lists in the initial period of spelling.

The State adopted spelling books present sequential steps in teaching spelling. These steps involve visual, auditory, and kinesthetic imagery as well as emphasis on recall. The teacher's use of individualized and multi-sensory instruction will reinforce the spelling materials presented in the textbooks.

The following is a suggested list of the sequence of skills and activities to be used in teaching spelling to the minimally brain-injured child.

I. Learn to spell own name

A. Stencil

B. Sandpaper

C. Alphabet macaroni

D. Felt cutout letters

E. Clay

F. Sand box

G. Large crayons

H. Thin paper tracing with tool

I. Writing on paper with tool

J. Simultaneously saying the sound that represents the letter being written

II. Learn alphabet

A. Use large plastic or wooden letters which can be handled by child

B. Learn alphabet game and songs

C. Practice identification

D. Learn to write

III. Use words within experience vocabulary

A. Holidays

B. School environment

C. Action words

D. Signs, labels, menu words

E. Words used in connection with field trips

IV. Use words in connection with unit of work

A. List from basal text

B. Word games

- Teacher made games
- Commercial games

V. Keep list of words misspelled in written work

  A. Keep cumulative list of errors

    - Determine if there is a pattern in errors

    - Work to break pattern

  B. Notebook

VI. Develop power in word building

  A. Suffixes

  B. Prefixes

  C. Plurals

  D. Spelling rules

  E. Phonics

VII. Develop power to transfer phonetic ability to spelling

  A. Dictionary

  B. Spelling bees

  C. Scrambled words

  D. Commercial games

  E. Simultaneously saying sound that represents letter being written

VIII. Use basic spelling lists to provide check lists

IX. Learn words necessary to vocation

  A. Application form, order blanks, receipts

  B. Money orders

  C. Income tax forms

  D. Budgets and accounts

  E. Personal data words

ARITHMETIC

The minimally brain-injured child who has perceptual impairment of one or more sensory areas may also have difficulty in arithmetic. He must be able to perceive form and shape meaningfully if he is to be successful in arithmetic. This child is not likely to be able to develop concepts and abstractions which are necessary in understanding the arithmetical processes. It may be necessary to use special teaching techniques to assist him in learning the desired concepts. Regardless of the age of the child, training which will assist him to develop form perception must be given before he is ready to understand the presentation of arithmetic. (Refer to section on Perception).

The arithmetic curriculum for the regular classes should be followed as closely as possible. The basic concepts are presented sequentially and each year thereafter they are reviewed, redeveloped, and extended progressively. When following the regular curriculum for sequence and concepts, the teacher should present material selectively. In many instances, the teacher will need to devise her own modifications of materials and presentation. She will need to change materials often and vary the methods with which they are presented. The teacher should allow sufficient practice and time to establish and to integrate the concepts learned.

The developmental sequence which the teacher follows when presenting the concepts begins with the concrete and leads to the abstract. Although the capacity for dealing with abstract concepts and symbols may vary from child to child, it is something that must be developed through concrete experiences. The teacher helps the child to utilize his full capacities through gradual levels of experience in sequential order. The basis for all learning is sensory experience: it must be heard, it must be seen; it must be felt. As a general axiom, the more sensory modalities stimulated in connection with a particular learning situation, the better the learning, retention, and extension into other curriculum areas. This is one of the reasons the multi-sensory approach should be stressed in presenting arithmetic.

I. Whole numbers
   (Use multi-sensory approach, color)

   A. Counting

      1. See section on Perception for development of form and shape concept

      2. Present the number using kinesthetic and auditory reinforcement

    a. Child counts own body parts
    b. Child counts another person's body parts
    c. Child counts own possessions
    d. Child counts things in room

3. Matching (1 to 1 correspondence)
    a. One red block to one red block
    b. Four triangles to four triangles
    c. Two squares to two squares
    d. Numeral one to one star or one picture
    e. Picture of two objects to numeral 2

4. Sequence
    a. Show child order of numbers with varied concrete objects
    b. Introduce numerals 1, 2, 3. Use number line
    c. Continue with numeral presentation 4, 5
    d. Reinforce with manipulation of many concrete materials
    e. Continue numeral presentation 6, 7---10
    f. Reinforce with manipulation of many concrete materials
    g. Introduce teens (11 - 19) carefully and slowly
    h. Present numerals 20 - 100 - 1000
    i. Present ordinals
        (1) First through ninth
            - In lining up for lunch, games
            - In taking turns
            - In formal presentation
        (2) Tenth through thirty-first

B. Symbols (numerals)

1. Reading and writing of numerals

   a. Help child feel the numeral with finger

      - Sandpaper
      - Fabric
      - Crayon on rough paper

   b. Use color cues to assist child in distinguishing parts of numeral

   c. Help child write numerals

      - Tracing paper
      - Stencils
      - Forms to trace around
      - Clay tablet and stylus
      - Dotted lines
      - Wet sand in box and stylus

   d. Let child write numerals independently

   e. Be sure child writes numeral correctly

   f. Repeat until child knows numerals (use various materials)

   g. If child cannot grasp a particular numeral, go to another then come back

2. Write numerals in relation to objects and pictures

   a. Use various objects to count in order

   b. Count objects and record

   c. Introduce number word

   d. Relate word to symbol

   e. Relate word and symbol to configuration

f. Example

2	..	two

3. Explain face value of numerals

a. 22--2 ones and 2 tens

b. 333--3 ones, 3 tens, 3 hundreds

4. Explain place value

a. 346--6 ones, 4 tens, 3 hundreds

b. Introduce basic idea of grouping

5. Present zero

a. Develop null concept (nothingness represented by zero)

b. Explain zero as a place holder

C. Addition (work sheets prepared to meet individual needs of child)

1. Concrete stage

a. Give child abacus, blocks, pegs and peg boards, sticks or other materials with which to work; one at a time, limited in number and in a controlled space

b. Give child problem orally

c. Show child how to work problem with concrete aids

d. Use auditory reinforcement and color cues

e. Have child manipulate the material as he counts and works problem

- Child picks up and moves objects one at a time, and tallies
- Child pushes objects one at a time and tallies

    - Child touches objects one at a time and tallies
    - Child points to objects one at a time and tallies
  - f. Let child work independently
  - g. Be sure child is working correctly
  - h. Alternate materials and methods
  - i. Have child try again if he does not grasp idea
  - j. Concept is more important than sequence

2. Semi-concrete stage
   - a. Child works with pictures, number symbols, and color cues
   - b. Show child how to count pictures
   - c. Have child count pictures, tally, and record number
   - d. Have child count pictures, add, and record answer

$$\begin{array}{rr} 00 & 2 \\ 000 & 3 \\ \hline 00000 & 5 \end{array}$$

   - e. Have child do similar problems independently (limited number on page)
   - f. Change pictures from like to unlike; change colors from like to unlike
   - g. Repeat process if necessary using different materials and approach (stars, dominoes, tally marks)
   - h. Number line
     - On chalkboard
     - On individual desks

3. Abstract stage
   - a. Present problem in numeral form only

b. Give child concrete aids with which to work

c. Show child how to work problem

  - Explain "and"
  - Explain arrangement of problem
    - In vertical form
    - In horizontal form

d. Help child work problem

e. Let child work independently

  - Be sure child is working correctly
  - Give child only a limited number of problems per page
  - Build tolerance for more problems per work sheet

f. Introduce problem solving

  - Child must be able to read before he is presented written problems
  - Numeral different color from that of words
  - Example: 2 dogs and 2 dogs are _____dogs

g. Allow for short and planned individual practice

h. Use number line

i. Basic facts

  - Sums to 10
  - Sums to 100

j. Writing addition problem as number sentence
3+5+7=15

k. Writing of addition in column

$$\begin{array}{r} 3 \\ 5 \\ \underline{7} \\ 15 \end{array}$$

        - Commercial
        - Teacher made

0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15				
4	4	8	12	16	20				
5	5	10	15	20	25				
6	6	12	18						

    b. Fingers

    c. Blocks

6. Change materials and methods often

7. Let child work independently

    a. Be sure child works correctly

    b. Present limited number of problems

    c. Build tolerance for more problems per page

    d. Give child concrete aids with which to work

8. Basic facts

    a. Through 5

    b. Through 10

9. Grouping and sequence (associative and distributive properties)

    a. Regardless of order of factors the product is the same

$$\begin{array}{r} 6 \\ \underline{\mathrm{x}\ 3} \\ 18 \end{array} \qquad \begin{array}{r} 3 \\ \underline{\mathrm{x}\ 6} \\ 18 \end{array}$$

    b. Regardless of grouping of factors the product is the same

2 x (3 x 4) = 24
2 x 12 = 24
(2 x 3) x 4 = 24
6 x 4 = 24

l. Use of plus and equal signs

m. Grouping and sequence (associative and distributive)

- Regardless of order or addends the sum is the same

  $1+2+2+3+4+6 = 18$

  $2+1+3+4+2+6 = 18$

- Regardless of grouping of addends the sum is the same

  $$\begin{array}{ccccc}(1+4) & + & (3+2+5) & = & 15\\ 5 & + & 10 & = & 15\end{array}$$

  $$\begin{array}{ccccc}(1+2+5) & + & (3+4) & = & 15\\ 8 & + & 7 & = & 15\end{array}$$

n. Computation

- Lining up like units

  $$\begin{array}{r}246\\ 8\\ 45\\ \underline{193}\end{array}$$

- Develop understanding of carrying (regrouping)
  - Use concrete aids
    - Pennies, dimes, dollars
    - Pocket charts
    - Sticks or cards in bundles of ten
  - Use concrete aids and record actions as number symbols
- Understanding of the use of zero in column and in sum

o. Checks to determine correctness of answer

p. Thought problems

- q. Estimation
  - Approximate answer
  - Rounding off numbers

D. Subtraction--Follow steps 1 and 2 for addition except show the process of taking away or difference rather than combining

1. Basic facts
   - a. Minuend through 9
   - b. Minuend through 18
2. Writing of subtraction problem in number sentence

   9 - 3 = 6
3. Writing of subtraction problem in column

$$\begin{array}{r} 9 \\ \underline{-3} \\ 6 \end{array}$$

4. Use of minus and equal signs
5. Explain the meaning of difference and remainder
   - a. Difference - comparison of two numbers
   - b. Remainder - taking away
6. Present child with carefully planned work
7. Build tolerance for more problems per page
8. Allow child to use concrete aids

E. Carrying and borrowing (regrouping)

1. Concrete
   - a. Use abacus
   - b. Use pennies, dimes, dollars
   - c. Use bundles of ten objects

d. Regroup objects ones, tens, hundreds (place value charts)

hundreds	tens	ones

2. Semi-concrete

   a. Work on abacus or with bundles of tens

   b. Record answer on paper

   c. Make sure child works correctly before allowing independent work

3. Abstract

   a. Present problems

   b. Let child work independently

      - Be sure child works correctly

      - Present limited number of problems per work sheet

4. Checks to determine correctness of answer

5. Thought problems

F. Multiplication

1. Relate multiplication to addition

   a. Use blocks

   b. Use number line

   c. Use charts

2. Use counting frames (100 beads)

3. Use real money only

4. Use abacus

5. Use "crutches" such as

   a. Multipliers

10. Computation

    a. The multiplier is always an abstract term

    b. The multiplicand is always a concrete term

    c. Use concrete materials and aids to demonstrate

G. Division

1. Relate division to subtraction and multiplication

2. Use visual cues

    a. Drawings

    b. Diagrams

    c. Pictures

3. Use abacus

4. Use objects and regroup to show division

5. Present simple problems

6. Let child work independently

    a. Be sure child works correctly

    b. Give child limited number of problems

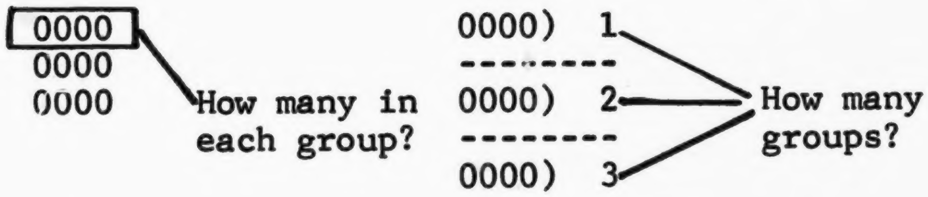
    c. Give child concrete aids with which to work

7. Basic facts (use concrete and semi-concrete aids)

    a. Objects

    b. Number line

    c. Examples


0000
0000
0000
How many in each group?
0000) 1
0000) 2
0000) 3
How many groups?

8. Computation

    a. One-digit divisor

        - b. Two-digit divisor
        - c. Three-digit divisor
    - 9. Checks to determine correctness of answer
    - 10. Thought problems
- H. Number systems
    - 1. Base ten (Hindu-Arabic)
        - a. Elicit pupils' reasons for grouping by tens
        - b. Teacher explanation and concrete examples
            - (1) Abacus
            - (2) Objects in groups of ones, tens, hundreds
            - (3) Pocket chart
            - (4) Pennies, dimes, dollars
    - 2. Other base systems (especially base 4) for understanding of base ten (depending on ability of students).
        - a. Base four abacus
        - b. Objects in groups of four
        - c. Pocket chart
        - d. Counting in base four
        - e. Addition and subtraction in base four
        - f. Uses of bases 5, 6, and 8
        - g. Change from one base to another--for those who are able
    - 3. Comparison of base ten and other bases
    - 4. Roman numerals
        - a. Comparison of basic principles
            - (1) No place value

            - (2) No concept of zero
            - (3) Cannot add or subtract, much less multiply or divide
        - b. Distinction between numerals and numbers
        - c. Numerals (upper and lower case)
            - (1) One through ten
            - (2) Multiples of ten to 100
            - (3) Numerals preceding multiples of 5 and 10
            - (4) Multiples of 100
        - d. Functional uses
            - (1) Some clocks and watches
            - (2) Dates
            - (3) Chapters and pages in books
            - (4) Outlines

II. Measurement
(Use multi-sensory approach)

- A. Linear
    - 1. Use of ruler
    - 2. Use of yard stick
- B. Quantity
- C. Weights
- D. Liquid measure
- E. Dry measure
- F. Time
    - 1. Clock
    - 2. Calendar
- G. Temperature

H. Concepts of relative quantity and size
  - Less - more
  - More than
  - Larger
  - Fewer than

III. Fractions
(Use multi-sensory approach)

A. Fractional concepts
  1. A whole (single, group, fractions)
  2. Relation of part to whole
  3. Fraction of
     a. A whole
     b. A group
     c. A fraction
  4. Symbols
     a. Terms
     b. Rationale
  5. Equivalents
  6. Proper fraction
  7. Improper fractions
  8. Mixed numbers
  9. Changing to lower and higher terms
  10. Comparison between fractions

B. Addition
  1. Concrete experiences
  2. Computation procedures (see adopted texts)

- C. Subtraction
  - 1. Concrete experiences
  - 2. Computation procedures (see adopted texts)
- D. Multiplication (for more advanced students)
  - 1. Concrete experiences
  - 2. Computation procedures (see adopted texts)
- E. Division (for more advanced students
  - 1. Concrete experiences
  - 2. Computation procedures (see adopted texts)

IV. Decimals
(Use multi-sensory approach)

- A. Decimal concepts--teacher should use many concrete aids and devices
  - 1. Relate decimals to money
  - 2. Relate to fractions and whole numbers
  - 3. Rationale and symbols
    - a. Review base ten
    - b. Meaning of decimal point
    - c. "and" means decimal point
    - d. Place values (only 10, 100, 1000 --)
    - e. Reading and writing numerals
    - f. Comparing relative sizes and equivalents
    - g. Changing fractions to decimals
      - (1) Terminating decimals
      - (2) Non-terminating decimals
    - h. Changing decimals to fractions
      - (1) Simple decimals

        - (2) Mixed numbers
        - (3) Reducing to lowest terms

- B. Addition
    - 1. Concrete experiences
        - a. Changing to fractions
        - b. Comparing to fractions
    - 2. Computation procedures
        - a. Lining up units (decimal point)
        - b. Annexing zeros
        - c. Regrouping (carrying)
    - 3. Thought problems (functional)
- C. Multiplication
    - 1. Concrete experiences--changing to fractions and comparing
    - 2. Computation procedures
        - a. Lining up terminal digits (on right); disregard decimal point
        - b. Multiplying as with whole numbers; disregard decimal point
        - c. Position of decimal point in product
        - d. Multiplying by 10, 100, 1000 --
    - 3. Rounding off numbers
    - 4. Thought problems (functional)
- D. Division
    - 1. Concrete experiences--changing to fractions and comparing
    - 2. Computation procedures
        - a. Positioning as with whole numbers; disregarding decimal point

b. Changing divisor to whole number by moving decimal point

c. Changing dividend in same manner as divisor

(1) Without annexing zeros

(2) Annexing zeros

d. Placing decimal point in quotient

e. Dividing whole number into decimal

f. Dividing decimal into decimal

g. Dividing decimal into whole number

3. Thought problems (functional)

V. Equations
(Use multi-sensory approach)

A. Rationale

1. Relation to all arithmetic problems

2. Changing verbal to numerical problems

3. Symbols

a. Operation: + - x ÷

b. Relation: = ≠ > <

c. Grouping: { } ( ) [ ]

d. Number: 3 2 1½ 2/3

e. Unknown: x n y z △

B. Computation procedures

1. Solving for unknown (simple one-step problems)

a. Transposing (color cues very helpful)

b. Addition - subtract to isolate unknown

c. Subtraction - add to isolate unknown

d. Division - multiply to isolate unknown

e. Multiplication - divide to isolate unknown

2. Solving for unknown (harder--two-step problems)

a. Removing addition and subtraction first to isolate unknown

b. Removing multiplication and division second to isolate unknown

C. Integer relationships

1. Additional symbols (relation symbols)

$\geq \quad \leq \qquad |-21|$

2. Thought problems (only numerical)

D. Signed numbers

1. Rationale (number line)

2. Procedures

a. Addition

b. Subtraction

c. Multiplication

d. Division

VI. Per Cent

(Use multi-sensory approach)

A. Concrete experiences

1. Color cues

2. Per cent chart showing relationship of 100 total parts

B. Comparison to decimals and fractions

C. Review changing fractions to decimals

D. Changing decimals to per cent (and reverse)

E. Finding a per cent of a number (10% of 80 = __)

F. Finding what per cent one number is of another

(8 = __% of 80)

G. Finding the base (whole) when per cent is known

(8 = 10% of ___)

1. Solving as equation
2. Solving as ratio

H. Changing word problems to numerical problems

I. Thought problems

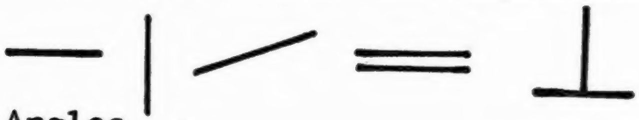
J. Changing per cent to fractions

1. Changing per cent to decimal
2. Changing decimal to fraction
3. Reducing

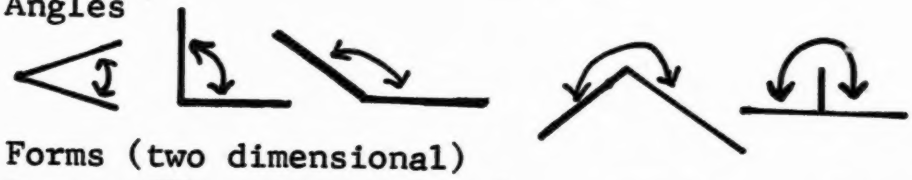
VII. Geometric Forms and Measurements
(Use multi-sensory approach)

A. Basic Concepts

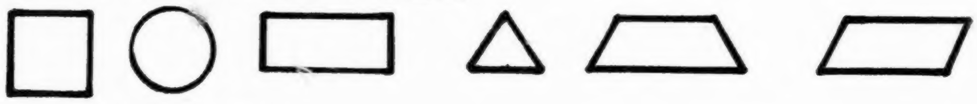
1. Lines (positional and relational)



2. Angles



3. Forms (two dimensional)



B. Working with lines

1. Measurement
2. Bisecting
3. Perpendiculars (construction)

C. Working with angles
    1. Measurement
        a. Circle
        b. Protractor
        c. Degrees
    2. Construction
        a. Use of compass
        b. Use of protractor

D. Working with forms
    1. Identifying
    2. Construction
    3. Measurement (perimeter and area): formulas
        a. Rectangle
        b. Square
        c. Triangle
        d. Parallelogram (difficult)
        e. Trapezoid (difficult)
        f. Circle (difficult)

E. Volume and surface area of solids
    1. Identifying forms and drawings (three dimensional)
    2. Measurement - formulas
        a. Rectangular solid
        b. Cube
        c. Prism
        d. Cylinder

F. Thought problems

VIII. General Mathematics

- A. Wages
  - 1. Hourly
  - 2. Weekly
  - 3. Monthly
  - 4. Deductions
- B. Banking
  - 1. Checks
  - 2. Accounts
  - 3. Forms
  - 4. Statements
- C. Budgeting
  - 1. Food
  - 2. Clothing
    - a. Buying
    - b. Cost of care
  - 3. Shelter
    - a. Maintenance
    - b. Rent (or payments)
  - 4. Leisure time
  - 5. Personal hygiene and grooming
  - 6. Savings
  - 7. Utilities
  - 8. Union Dues
  - 9. Transportation
    - a. Time tables

    - b. Schedules
10. Automobile
    - a. Cost of purchase
    - b. Maintenance
11. Installment buying
12. Health services
13. Insurance
    - a. Life
    - b. Hospitalization
    - c. Automobile
    - d. Workmen's compensation
14. Income tax
15. Other taxes
16. Social security
17. Newspaper advertisements
    - a. Grocery
    - b. Interest rates
    - c. Employment
    - d. Automobile
    - e. Clothing

SCIENCE

Instruction in science offers many ways of integrating the various educational levels at which minimally brain-injured children function in their classroom. The regular science curriculum needs to be followed as nearly as possible so that sequential concepts can be taught.

Minimal concepts suggested in this guide can be taught through the unit approach. Using multi-sensory methods makes instruction more effective.

Through experience in classroom unit teaching, each child in the special class can work at his level in communicative arts and arithmetic; he can contribute information and participate in learning activities. The unit chosen may grow out of the special interest of the class as a whole, or of an individual child, and should be broad enough to cover several areas of study and information. Integration in these areas becomes a natural part of the ongoing curriculum program.

Examples of integration in the subject and developmental areas:

I. Integration in language arts

   A. Conversations and discussions

   B. Story-telling

      - Original stories

      - Read and retold

   C. Reading for information

   D. Writing down information

   E. Reporting

      - Organizing

      - Giving

      - Listening to

   F. Vocabulary study and spelling

   G. Taking notes

   H. Following directions

I. Recording data legibly and accurately

J. Reading special equipment

- Parts
- Gauges
- Screens
- Controls

K. Research

- Using library
- Using other books

II. Integration in arithmetic

A. Measuring and counting

B. Reading charts, graphs, scales

C. Drawing to scale

D. Problem solving

E. Formula solving

F. Obeying rules, laws, principles, theorems

III. Integration in creative and constructive activities

A. Drawing

- Pictures
- Charts
- Maps

B. Painting

- Murals
- Models
- Pictures

C. Making models, displays

D. Music related to air, sound

E. Song writing

F. Dramatization

  - Creative
  - Programs

G. Construction of experiments

H. Construction of animal homes

I. Construction of our clothing

IV. Integration in social and emotional development

A. Work habits

  - Completing tasks
  - Neatness of work
  - Accuracy of work

B. Contributing to collections

C. Sharing experiences

D. Use and respect for property

  - Private
  - Public

E. Wise use of and responsibility for materials

F. Developing hobbies

G. Appreciation of man's dependence and use of nature's laws

H. Experiences of success through contribution

I. Taking pride in community

J. Listening to others to gain information

K. Accepting completion of pleasant experience and beginning a new one

L. Personal recognition through giving a demonstration

M. Protection of own body

- Safety
- Health practices
- Hygiene

N. Making careful and accurate judgments

The teacher will need to follow the adopted science series so that the children receive a sequentially planned science program. In building units of study the teacher will need to have resource materials available for the children to use in making their contributions to the project. Suggested units and activities which may include the use of basic texts and/or workbooks are listed below.

I. The earth and universe

A. Weather

1. Seasons
2. Weather conditions
3. Weather reports

B. Earth and its surface

1. Rocks and soil
2. Mountains
3. Earthquakes
4. Volcanoes
5. Hot springs and geysers
6. Rivers, lakes, seas, oceans

C. The universe

1. The sun's family

        a. Planets
        b. Moons
        c. Comets
        d. Meteors
    2. Earth's moon
        a. Phases
        b. Tides
        c. Eclipses
    3. Constellations and galaxies

D. Activities
    1. Observe weather, keep charts
    2. Collections
        - Rocks
        - Soil
    3. Make models
    4. Experiments with water
    5. Legends about the sun, stars
    6. Maps
        - Clay
        - Salt
        - Papier-maché
    7. Drawing, painting pictures
    8. Collecting pictures
        - Displays
        - Scrapbooks
    9. Entries in science fair

- 10. Field trips
    - Weather Station
    - Planetarium

II. Living things

- A. Animals
    - 1. Pets
        - Home
        - School
    - 2. Farm
    - 3. Zoo
    - 4. Prehistoric
    - 5. People
    - 6. Animals for food, clothing
- B. Plants
    - 1. Propagation
        - a. Seeds, cuttings, roots
        - b. Conditions
            - Air
            - Water
            - Sunlight
    - 2. Plants as foods
        - a. For people
        - b. For other animals
    - 3. Plants for clothing
    - 4. Flowers and trees

C. Conservation

  1. Natural resources

    a. Supply

    b. Loss

  2. Protection, saving for the future

D. Activities

  1. Label collections of leaves and flowers

  2. Grow and care for plants in classroom

  3. Field trips

    - Farm
    - Zoo
    - Dam
    - Botanical Gardens

  4. Seed Collections

  5. Make and use bird feeders

  6. Plant a garden

  7. Collect pamphlets from National Parks

  8. Leaf and flower designs

    - Spatter paint
    - Clay
    - Ink prints
    - Papier-maché
    - Cut paper

  9. Pet shows

  10. Nutrition

    - Diet

- Menus
- Food budgets

III. Matter and Energy

A. Machines

1. Simple machines

a. Lever

b. Pulley

c. Wheel and axle

d. Gear

e. Inclined plane

f. Wedge

g. Screw

2. Purposes of machines

a. Increase speed

b. Increase force

c. Change direction of force

3. Engines

a. Sailboats and windmills

b. Water wheels

c. Steam engines

d. Gasoline and diesel engines

e. Electric generators and motors

f. Solar machines and atomic power plants

B. Heat, light, sounds

1. Heat

a. Forms of heat

        - b. Measurement of temperature
        - c. Effects of heating
            - . Expansion, contraction
            - . Changes a substance
        - d. Heating and cooling our homes
        - e. Cooking and preserving foods
    - 2. Light
        - a. Definition and travel
        - b. Colors
            - . Rainbows
            - . Blue Sky
        - c. Mirrors and lenses
        - d. The human eye
    - 3. Sound
        - a. Definition and travel
        - b. Changing sounds
        - c. How we speak and hear
        - d. The human ear
        - e. Musical instruments and singing
- C. Magnetism and electricity
    - 1. Definition and nature of magnetism
    - 2. Types of electricity
        - a. Static
        - b. Current
    - 3. Generating electricity
        - a. The electromagnet

        - b. The telegraph and telephone
        - c. The electric motor
    - 4. Electricity for heat and light
    - 5. Measurement of electricity
        - a. Ampere
        - b. Volt
        - c. Ohm
        - d. Watt
        - e. Kilowatt-hour
    - 6. Wiring systems
        - a. In buildings
            - Homes
            - Shop
            - Factory
        - b. Safety
            - Fuses
            - Outlets
            - Overloading
    - 7. Costs
        - a. Electric meters
        - b. Electric power bills
- D. Activities
    - 1. Making models
    - 2. Field trips
        - Garages
        - Power plants

  - Factories
  - Mills
  - Television and radio stations

3. Experiments to prove laws
4. Take apart and simple repair of simple appliances
5. Examining and using musical instruments
6. Examining and using a camera
7. Experiments with color, mirrors, lens
8. Make thermometer, keep records

SOCIAL STUDIES

The social studies program can help the minimally brain-injured child just as it serves children in regular classes to meet the challenges of citizenship in a changing world by providing opportunities in cooperation, sharing, creativeness, and discharge of responsibility. The child must be helped to acquire knowledge and understanding of group processes, to appreciate our democratic institutions, and to develop the ability to live and work with others.

If the child is to understand and respect the peoples of the world the teacher must seek ways to develop an understanding and acceptance of cultural differences.

The teacher has the responsibility:

- To help the child appreciate the American heritage, traditions, and ideals
- To promote an understanding between peoples of all races, colors, creeds
- To provide a framework for intergroup action in which people work for the common good of all
- To foster an understanding of the processes which have made the nation great
- To guide the student in developing personal values

- To train the mind of the child to become responsive to the needs and problems of others

The social studies program consists of two separate parts, each interwoven with the other. The formal program of studies is organized developmentally; its objective is to study people and their environment. The second, or informal, program results from boys and girls living and working together, side by side, day by day. The teacher of minimally brain-injured children needs to plan daily, and with careful attention, the experiences which will contribute to the growth and development of adequate patterns of social living.

The unit method of teaching the social studies program will give each child an opportunity to participate according to his ability. The teacher should follow the social studies curriculum of the school system so that all areas of the program will be covered. These may include:

I. The immediate environment

  A. Home

    1. Family

    2. Pets

    3. Daily activities

    4. Vacation activities

  B. School

    1. School workers

    2. Health

    3. Safety

  C. Neighborhood

    1. Friends

    2. Types of stores

    3. Service centers

    4. Farm

  D. Others

        1. Holidays
        2. Seasons
        3. Circus

II. Community

    A. Community Workers

        1. Policeman
        2. Fireman
        3. Librarian

    B. Plants and Animals

III. Community-wide functions and activities

    A. Food
    B. Shelter
    C. Clothing
    D. Transportation
    E. Communication
    F. Water plant
    G. Airports
    H. Sanitation department

IV. Our state

    A. Physical Characteristics

        1. High lands
        2. Low lands

    B. Climate
    C. Towns
    D. Cities

   - E. Transportation and Communication
   - F. Recreation
   - G. Famous People
   - H. History and Government

V. Life in other lands
   - A. High lands
   - B. Low lands
   - C. Wet and dry lands

VI. Early American life
   - A. Colonial life
   - B. Pioneer life
   - C. Westward movement

VII. Western Hemisphere
   - A. Regions of the United States
   - B. Industries of the United States
   - C. Individual states
   - D. Our neighbors to the north and south

VIII. Eastern Hemisphere
   - A. Europe
      - 1. European backgrounds of American History
      - 2. Influence of Industrial Revolution
   - B. Other continents and countries
      - 1. People in other environments
      - 2. Industries as related to physical features

IX. United States history

- A. Growth of Democracy
- B. American Government
- C. Great documents
- D. Great Americans
- E. Our relations with other countries

X. World history

XI. World geography

XII. Problems of American democracy

- A. Within the United States
- B. Outside the United States

XIII. Activities

- A. Take field trips
- B. Prepare exhibits
- C. Participate in creative dramatics
- D. Use films, filmstrips, and recordings
- E. Produce folk festivals
  - Learn folk dances and games
  - Learn folk songs
  - Study native dress
- F. Prepare creative arts and crafts
  - Dioramas
  - Murals
  - Posters

G. Participate in debates and panel discussions

H. Construct maps (neighborhood, hometown, state, country)

   1. Floor maps using tempera and crayon on linoleum, paper, or oilcloth
   2. Pictorial maps of community buildings, products, types of houses and buildings, food, clothing, means of transportation and communication, resources, rivers
   3. Specimen maps using real items such as leaves, rocks and minerals, wheat, cotton, corn, and flowers
   4. Wall outline maps made by using opaque projector
   5. Desk outline maps made by pupils
   6. Mural maps with strips of paper for streets, pictures, silhouettes, and other details
   7. Relief maps of papier-maché, salt-flour, clay, sand, or plaster of Paris
   8. Jigsaw maps of cities, counties, states, and countries
   9. Historical maps showing early travel routes, battles, settlements, and development of colonization

SECTION THREE

CREATIVE DEVELOPMENT

The teacher will be able to provide opportunities for creative development through a well planned curriculum which includes art, music, creative play, and dramatization. Through such a program the child may be able to develop a special talent or skills that he can use for pleasure in leisure time activities or in a vocation.

ARTS AND CRAFTS

The arts and crafts activities provided for the minimally brain-injured child are the same as those provided for the child in the regular class. The teacher is to avail herself of the art curriculum guides developed in many school systems and see that her class has similar art experiences.

Arts and crafts are a logical path toward vocational proficiency. The child who will enter the third track, or vocational training, needs much work with both of his hands. A sequential art program advancing from basic skills toward more difficult techniques in the secondary levels makes possible the training of manual dexterity needed in many instances for successful employment.

It may be impossible for some children to tolerate media that are slick or rough or messy such as paste, finger paint, or papier-maché. Gradual tolerance will need to be developed before these children can work effectively with these media. If an art curriculum guide is not available, or even if one is available, the following activities are to be included.

I. Drawing

  A. Individual pictures-motivated

  B. Scribble design-color spaces

C. Illustrate story

D. Draw self; family

II. Painting

A. Finger paint

B. Tempera

C. Water color

D. Chalk

E. Sponge

F. String

G. Melted crayon

H. Soda straw (dip straw in paint, blow paint out)

III. Modeling

A. Clay

B. Sawdust

C. Papier-maché

D. Plaster

E. Soap

F. Wire

G. Wood

H. "Play-Doh"

I. Plastic

IV. Construction

A. Cardboard box houses

B. Candy houses

C. Wood block houses

D. Puppets and marionettes

E. Carpentry

F. Masks

G. Stage scenery

H. Collages

I. Mosaics

J. Posters

K. Display

1. Bulletin boards

2. Window displays

V. Paper

A. Cutting

B. Tearing

C. Pasting

D. Folding

E. Murals

VI. Weaving

A. Picture frame

B. Soda straw

C. Box loom

D. Monks cloth

E. Burlap

F. Stitchery

VII. Metal

A. Copper enameling

B. Copper tooling

C. Aluminum etching

D. Tin-can craft

VIII. Leather

A. Lacing

B. Tooling

C. Braiding

IX. Printing

A. Potato and stick

B. Linoleum block

C. String

D. Stencil

E. Silk screen

DRAMATICS AND CREATIVE PLAY

I. Creative Dramatics.

Creative dramatics is unique in that it is always improvised. There are no rehearsals, no set dialogues, and no planned actions for the players. The children put a story into action through planning and then performing the story with spontaneous dialogue and actions. The children perform for their own pleasure and not for an audience. Some activities might be:

A. Creative dramatics

1. Provide experiences in thinking creatively and independently

2. Provide practice in social cooperation

3. Provide opportunities to learn to control emotional release

4. Provide opportunities to think while performing
5. Provide opportunities for fun while learning

B. Teacher's role

1. Become involved in the activity
2. Praise each child for performance
3. Guide planning of each activity

C. Activities (individual and group)

1. Pretending to be animals
2. Pretending to be characters (general)
   - King
   - Prince
   - Soldier
   - Cowboy
3. Pretending to be specific characters
   - Cinderella
   - Robin Hood
   - Jim Bowie
4. Role playing
   - For pleasure
   - For therapy
5. Using whole stories for group performance
6. Shadow plays
   a. Hand puppets
   b. Finger shadows
   c. Children themselves

D. Materials

1. Recordings of fairy tales, and other stories
2. Recordings of children's songs
3. Recordings of instrumental music to be used for free interpretation
4. Equipment for shadow plays
    a. Strong light
    b. Sheet or other cloth suspended for shadow screen
5. Resource books for stories
    a. Anthologies of children's literature
    b. Poetry books for children

II. Formal dramatics

Creative dramatics with elementary children can lead into more formal dramatics. Playing a part before an audience can help to develop poise and confidence, to allow for role playing, and to learn to produce a finished product.

A. Planning
   1. Group participation in planning and/or writing
   2. Keep play simple
   3. Keep play within interest and ability of children
   4. Give opportunity for art expression through set building and construction

B. Presentation
   1. For learning purposes
   2. For fun and pleasure
   3. For older pupils, seek assistance of drama teacher in the school

C. Equipment
   1. Use of minimum of properties so as to help develop imaginative abilities of children

2. Keep sets and costumes simple

3. Use an area of the classroom as the stage and remainder of the class as an audience. A board, piece of tape, or chalk mark can denote edge of the "stage."

MUSIC

Children react to musical activities in many ways; thus, these activities may need to be tailored to meet the needs and abilities of each child. The type of disability of a child may have an effect upon his reaction to music. For example, it would be difficult for a young, hyperactive child to sit very long in a listening activity. Some of these children are also hypersensitive to high-pitched music such as violins and piccolos. They experience pain when it is necessary for them to listen to some types of music. No child should be expected to perform in areas which are impossible for him to tolerate.

There may be some brain-injured children who are not adversely affected by musical activities. For these, the music curriculum of the school may be followed. The music teacher may be scheduled for the special class the same as for other classes. If there is a school chorus or band, those children who have the ability may participate.

Music can be used in rhythmic activities to develop motor coordination. It can also be used in conjunction with dramatizations. Music as a leisure time activity has untold value in providing opportunities for singing in a chorus, studying a particular instrument, listening to concerts, operas, radio programs, theatre musicals, and singing for fun.

The final test of success is not in performance or facility but in the happiness and delight shown by the child. Musical activities may be:

I. Appreciation

  A. Listening

    1. Recorded stories which have a picture book to follow as the action takes place

      - Listening and reading

- Creative dramatics
- Singing or speaking with the record

2. Symphonies and individual instruments
    - Identify instruments
    - Compare to some animal sound
3. Vocal
    - Listen for story of song
    - Listen for rhythm
    - Sing with record

B. Learning about particular musical compositions (brief)

II. Rhythms and folk dancing

A. Rhythms

1. Activity records--Directions are given on record.
2. Motor activities to music
    - Clapping
    - Marching
    - Hopping
    - Running

B. Folk dancing--Use recordings that have the instructions along with the music and calls.

1. Simple folk games
2. Simple folk dances
3. Simple square dances
4. More complex folk dances
5. More complex square dances

III. Singing

- A. Classroom
  - 1. Action songs
    - Avoid highly stimulating actions
    - Teacher is leader
  - 2. Mother Goose rhymes set to music
  - 3. Songs related to units of teaching
  - 4. Patriotic songs
- B. In school chorus

CHAPTER V

THE VOCATIONAL PROGRAM

The vocational phase of the program for the minimally brain-injured student begins when he first enters the special education program, whether as a preschool child or as an older student who was identified at a later stage. This phase continues throughout the student's school life in a sequential, developmental pattern. It can be viewed in three stages, work habit training in the elementary grades, pre-vocational experiences in the junior high, and on-the-job training and employment in the senior high school. It continues until the student acquires sufficient vocational proficiency for successful employment, allowing him to graduate from special education; or until professional evaluation determines that he is not likely to profit from continued school service, in which instance he is terminated.

Throughout the early school years basic attitudes toward work are developed simultaneously with formal school experience. Fundamental attitudes of respect for work, for pride in a job well done, for beginning and completing a task, and many other attitudes leading to the respect for work and of self can be developed in a very young child. Activities that promote success in school achievement will concurrently promote success in vocational endeavors.

Listed below are some activities suggested for pre-vocational training in the elementary grades. Other activities may be added to the list by the special education teacher.

Elementary level

I. Habits in simple work routines

   A. Using toys properly

   B. Caring for belongings

   C. Learning to work in groups

II. Work in the school

A. Using and caring for school supplies and equipment

B. Using simple tools

1. Crayons

2. Paint brushes

3. Pencils

4. Chalk

C. Using and caring for simple tools

1. Sandpaper

2. Hammer

3. Saw

4. Screwdriver

5. Pliers

6. Wrenches

7. Plane

III. Life in the neighborhood

A. Visiting stores

B. Touring shopping centers

C. Conduct on tours

1. Respect for others' property

2. Respect for rights of other people

IV. Life in the community

A. Learning about city helpers

1. Firemen

2. Policemen

        3. Sanitation workers
        4. Postmen

    B. Becoming familiar with the city street plan

        1. Learn where each child lives
        2. Learn where specific businesses are located
        3. Learn where post office, fire station, police station are located

V. Community transportation

    A. Ways of travel

    B. Workers and their work

        - Cab drivers
        - Bus drivers
        - Street car operators

    C. City bus routes

    D. Fares and transfers

    E. Safety in public travel

    F. Manners while traveling

Junior High School and Senior High School Levels

At the junior high and senior high school levels emphasis is placed on a program that is primarily one of general education. Integration into regular classes as much as possible is expected. The curriculum should include industrial arts and/or the regular vocational education program or the modified vocational curricula for students with special learning needs.

In planning the work for minimally brain-injured children, the teacher will place emphasis on

- regular routine
- care of tools
- personal safety

- individualized instruction
- assignment of simple projects at first with a gradual increase of difficulty

The importance of school subjects, such as English, mathematics, science, and social studies, should not be minimized, but many of the activities of these subjects can be directly related to pre-vocational experiences. Other pre-vocational experiences may be developed around job exploration. Listed below are some activities that lend themselves to a framework around which basal subject units can be constructed.

I. Overview of job possibilities

   A. Job areas for boys

   B. Job areas for girls

II. Self-evaluation for job placement

   A. Analysis of job requirements

   B. Related individual needs for employability

   C. Measurements of pupil's potentials against job requirements

III. Necessary concepts for getting a job

   A. Telephone usage

   B. Getting to work

   C. Letters of application

   D. The job interview

   E. Job application blanks

   F. Social security number application

   G. Unions

IV. Ways to get a job

   A. "Pull" versus "punch"

B. Personal search

C. Want ads

D. Employment agencies

E. School

F. Rehabilitation services

V. Academic skills necessary and suitable for skilled and semi-skilled workers

A. Development of proficiency in basic tool subjects

B. Development of ability to follow oral and written directions

VI. Manual skills

A. Development of manual dexterity, coordination, and speed

B. Development of skill in using basic tools

VII. Ways of holding a job

A. Personality factors

- Developing a pleasing personality
- Developing appropriate response to others

B. Job proficiency

C. Seniority

D. Licensing

VIII. Wise spending of money earned on a job

A. Gross pay versus net pay

- Deductions
- Income tax
- Social security

B. Budgeting

C. Savings

Three possible ways of having the students participate in the industrial arts or vocational education programs are:

1. Participation with the regular class
   - The vocational teacher will do the instruction
   - The special teacher will need to confer with the vocational teacher as to the specific abilities, needs, and disabilities of the brain-injured child
2. The special teacher and the students using the shop or laboratories at a specified time when no other class is scheduled
   - The special teacher will do the instructing
   - The regular teacher may serve as a resource person
3. Arranging the classroom into special work areas which would include an area for shop activities and another for homemaking activities
   - The special teacher will do the instructing
   - The regular teacher may serve as a resource person

VOCATIONAL EDUCATION

Vocational education provides assistance to Texas schools in maintaining, improving, and extending existing programs; developing new programs, and providing part-time employment for in-school students as a result of State legislation and the 1963 Vocational Education Act. Modified vocational curricula for children with special learning needs may also be provided. The type of vocational program will vary in the districts according to the community. (Refer to the section on the three-track program in Chapter I.)

The vocational education teacher and the special education teacher must work together for the best interest of the minimally brain-injured student. In order to provide a meaningful vocational program to meet the individual needs, the teachers should understand that the program must be flexible. The student must be able to acquire certain occupational competencies to be prepared to become a satisfactory worker in society.

THE COOPERATIVE PROGRAM BETWEEN

SPECIAL EDUCATION AND VOCATIONAL REHABILITATION

The cooperative program of services between the Special Education and the Vocational Rehabilitation Divisions of the Texas Education Agency has been expanded to provide rehabilitation services of a vocational nature to qualified minimally brain-injured students in the public schools of Texas. This is the third track of the three-track program.

For those students who are eligible to participate in this cooperative program, planning should begin during the junior high grades, before the student actually becomes a client of the rehabilitation counselor. Referral of the student to Vocational Rehabilitation is made by the teacher through the Placement Committee. The time at which this referral is made to Vocational Rehabilitation will depend upon the student's stage of development, but should be made at least a year before the rehabilitation counselor accepts him as a client for actual vocational employment or training.

The cooperative program is designed as an educational medium which will meet specific needs of the student. Training for vocational proficiency should be emphasized at all times. For the student who will divide his time between classroom instruction and on-the-job training, the work experience should be part of his school program. He will be expected to perform in a satisfactory manner in order to receive credit toward graduation. At least one hour of classroom instruction per day should relate directly to development of skills that will increase his vocational adequacy. The student who is enrolled in a class of distributive education or industrial cooperative training will receive appropriate classroom training directly related to a job. The student in the special education class will be instructed in this area by the resource teacher. For the student who is on a full-time on-the-job training program, frequent conferences must be set up between the student, the resource teacher, and the rehabilitation counselor for the purpose of evaluating progress made and establishing new goals or objectives. The sponsor of the training station should be included in these conferences as well as other persons who are helping in the training program.

Responsibilities of personnel

Planning the program for the student will involve several people so as to make the most appropriate placement possible.

I. Rehabilitation counselor

  A. Evaluates the individual and his employability

  B. Determines eligibility for rehabilitation services

  C. Develops and coordinates the occupational plan

  D. Is aware of local job opportunities

  E. Assesses information concerning requirements for certain types of occupation

  F. Counsels with student and parents

  G. Interprets work and potential capacities of minimally brain-injured students to civic groups and prospective employment representatives

  H. Arranges placement on job and/or job-training on full or part-time basis

  I. Supervises the off-campus work-training program

  J. Conducts job follow-up services

II. Special education teacher who may also serve as vocational adjustment coordinator

  A. Maintain class records and reports required for all special education teachers

  B. Make recommendations to the placement committee when a student is ready for vocational rehabilitation services

  C. Participate in joint conferences with the vocational rehabilitation counselor and school staff

  D. Formulate reports of successes and failures with the vocational rehabilitation counselor using this information to adjust program of services and evaluate program operation

E. Act as consultant to the vocational rehabilitation counselor in all instances concerning clients

III. Principal of the cooperating school from which the rehabilitation unit operates

A. Administration of the Special Education program

B. Coordinate existing services within the school district wuch as:

- Recreational activities
- Attendance regulations
- Disciplinary regulations

C. Arrange for housing of program

D. Regulate working hours in compliance with school policy

E. Provide access to school records and school evaluations to the special teacher and the rehabilitation counselor

F. Provide for building maintenance, custodial help, utilities, etc.

G. Furnish general consultative assistance as needed

H. Coordinate existing vocational rehabilitation services within the school district with the special rehabilitation program so as to prevent conflicts between Special Education and Vocational Rehabilitation

Eligibility

Eligibility requirements are designated by the State Plan for administering the program. The following are some of the criteria which must be met:

1. A comprehensive neurological study must be made and an evaluation by a clinical psychologist must substantiate the presence of a perceptual and learning defect.

2. Individuals with minimal brain injury which is manifested by no demonstrable finding other than the inability to perceive symbols and who have thereby developed a marked lag in reading and mathematical achievement.

3. Such a defect need not bear any relationship to the client's measured intelligence quotient.

4. Those who achieve below an eighth grade level on both standarized and subjective tests may be eligible.

5. A reasonable expectation that vocational rehabilitation services may render the individual fit to engage in remunerative occupation.

The teacher may write to the Division of Vocational Rehabilitation, Texas Education Agency for further information concerning the cooperative program and where to locate the nearest rehabilitation office.

CHAPTER VI

EVALUATION

The Handbook and Curriculum Guide for Teachers of Programs for the Minimally Brain-Injured is broad in its scope. The guide gives a list of behavioral characteristcs and appropriate control measures, a section concerned with evaluation of growth and development, parent conferencing and counselling, and sections which deal specifically with remediation and/or instruction in motor, language, and perception development, academics, and vocational training. These suggestions are for all age levels provided for in the State Plan for Special Education.

The program as outlined in the guide lends itself to individualization. Each child should profit if the suggestions of the guide are incorporated in lesson planning.

Total evaluation of the effectiveness of the guide entails four major role considerations.

The Classroom Teacher

Effectiveness can be assessed after the teacher has

- been involved in in-service training to better understand the curriculum guide
- implemented the outlined procedures
- undertaken careful observation of each child
- initiated individual pupil evaluations

The Administrator or Supervisor

The responsibility of the administrator would include the following:

- To see that the purpose, objectives, admission requirements, and classroom organization is set up in accordance with state policy as stated in the guide.

- To see that the scope and sequence of the guide is followed.

- To initiate in-service training programs as a means of interpreting the guide and evaluating its effectiveness.

The Teacher Training Institutions

The curriculum guide could be used in professional preparation of teachers who will work with the minimally brain-injured. The colleges or other training institutions may use the guide as a course of study. The institutions using the guide would be asked to evaluate the guide as a teaching instrument.

It is the responsibility of the teacher, the administrator, or the teacher training institution using the Handbook and Curriculum Guide for Teachers of the Minimally Brain-Injured, to make an evaluation of the guide after it has been in use over a reasonable length of time. The appraisals should be in written form and made available to the Texas Education Agency, Division of Special Education.

The Special Education Consultant

The responsibility of the consultant in relation to evaluation would include the following:

- Consultative services to help interpret the guide

- Workshop participation

- Participation in state-wide planning

- Participation in in-service education of teachers

- Field observation on visits to local districts

The purpose of the Division of Special Education is to assist the public schools of Texas to develop and provide the educational services needed by exceptional children. This purpose would include the preparation of curriculum materials. Curriculum materials are in continuous revision as evaluative data are collected.

An assessment of the effectiveness of a curriculum guide is difficult but necessary. The guide should be evaluated after it has been in use for a period of time. After evaluations in written form have been received by the Texas Education Agency, Division of Special Education, from the teachers, the administrators, and the teacher training institutions, a state-wide committee will be appointed to evaluate the effectiveness of the guide. After the appraisals have been evaluated the committee will identify strengths and weaknesses of the guide and devise and implement plans for revision.

BIBLIOGRAPHY

General

1 Ackely, Edith Flach. Marionettes. New York: J. B. Lippencott Co.

2 Anderson, Camella M. Jan, My Brain Injured Daughter. Portland, Ore.: The Durham Press. 1963.

3 Andrews, Gladys. Creative Rhythmic Movement for Children. Englewood Cliffs, New Jersey: Prentice Hall. 1954.

4 Ashlock, Patrick, and Alberta Stephen. Educational Therapy in the Elementary School. Springfield, Illinois: Charles C. Thomas. 1966.

5 Axline, Virginia M. Play Therapy. Cambridge, Mass.: The Riverside Press. 1963.

6 Bender, Lauretta. Psychopathology of Children with Organic Brain Disorder. Springfield, Ill.: Charles C. Thomas. 1956.

7 Berry, Mildred and Jon Eisenson. Speech Disorders: Principles and Practices of Therapy. New York: Appleton-Crofts, Inc. 1956.

8 Betts, E. A. Foundations of Reading Instruction. New York: American Book, 1957.

9 Birch, Herbert (ed.) A Selective Bibliography on Brain Damaged Children. Langhorne, Pa.: The Woods Schools and Residential Treatment Center. 1964.

10 Birch, Jack (ed.) Brain Damage in Children. Baltimore, Md.: Williams and Wilkins Co. 1964.

11 Bruckner, Leo J., and Guy L. Bond. The Diagnosis and Treatment of Learning Difficulties. New York: Appleton Century Cross, Inc. 1955.

12 Cassidy, Rosaline. Counseling in the Physical Education Program. New York: Appleton-Century-Crofts. 1959.

13 Clements, Sam D. *Minimal Brain Dysfunction in Children*. Washington, D. C.: United States Department of Health Education, and Welfare. 1966.

14 Cole, Natalie. *The Arts in the Classroom*. New York: John Day Co. 1940.

15 Crawford, John E. *Children with Subtle Perceptual-Motor Difficulties*. Pittsburgh: Stanwix House, Inc. 1966. (written for teachers, school administrators, psychologists, therapists, and parents)

16 Cruickshank, William and Johnson, G. Orville (eds.) *Education of Exceptional Children and Youth*. Englewood Cliffs, New Jersey: Prentice Hall, Inc. 1958.

17. Cruickshank, William. *Perception and Cerebral Palsy*. Syracuse, New York: Syracuse University Press. 1957.

18 Cruickshank, William (ed.) *The Teacher of Brain-Injured Children*. Syracuse, New York: Syracuse University Press. 1966.

19 Chapman, Frederick M. *Recreation Activities for the Handicapped*. New York: Ronald Press Co.

20 Daley, William T. (ed.) *Speech and Language Therapy with the Brain-Injured Child*. Washington, D. C.: Catholic University of America Press. 1962.

21 Dauer, V. P. *Fitness for Elementary School Children Through Physical Education*. Minneapolis: Burgess. 1962.

22 Denhoff, Eric and Robinault, Isabel. *Cerebral Palsy and Related Disorders*. New York: McGraw Hill Bk. Co. 1960.

23 Diack, Hunter. *Reading and Psychology of Perception*. New York: Philosophical Library.

24 Dinkmeyer, D. C. *Child Development: The Emerging Self*. Englewood Cliffs, New Jersey: Prentice Hall. 1965

25 Featherstone, W.B. *Teaching the Slow Learner*. New York: Bureau of Publications. Teachers College, Columbia University. 1951.

26 Fitzgerald, Burdette E. *Let's Act the Story*. San Francisco: Fearon Publishing, Inc. 1957.

27 Frampton, Merle E. and E. D. Gall. *Special Education for the Exceptional*. Vol. 3. Boston: Porter-Sargent.1956.

28 Frierson, Edward C. and Walter B. Barbe. Educating Children with Learning Disabilities: Selected Readings. New York: Appleton-Century-Crofts. 1967. (56 authors such as: Kirk, Bateman, Delacato, deHirch, Frostig, Kephart, Wolinsky, Angie Nall.)

29 Gaitskell, Charles D. Children and Their Art. New York: Harcourt, Brace and Co., Inc. 1958.

30 Gallagher, J. J. The Tutoring of Brain-Injured Mentally Retarded Children. Springfield, Ill.: Charles C. Thomas, Publisher. 1960.

31 Getman, G. N. How to Develop Your Child's Intelligence. Luverne, Minnesota: Getman. 1962.

32 Getman, G. N. and Elmer R. Kane. Physiology of Readiness. Minneapolis, Minnesota: Programs to Accelerate School Success, Inc. 1964.

33 Gesell, Arnold. Developmental Diagnosis. New York: Paul Moeber, Inc. 1947.

34 Gesell, Arnold and Frances L. Ilg. Child Development. New York: Harper and Brothers Publishers. 1949.

35 Gibbs, Frederic A., et. al. Epilepsy Handbook. Springfield, Ill.: Charles C. Thomas Publisher. 1960.

36 Graham, Earl C. Rehabilitation Literature 1950--1955. (Bibliography) New York: McGraw Hill Book Co. 1956.

37 Green, Harry A. and Walter E. Petty. Developing Language Skills in Elementary School. Boston: Allyn and Bacon, Inc. 1963.

38 Haring, Norris G., et.al. Attitudes of Educators Toward Children. Syracuse, New York: Syracuse University Press. 1958.

39 Hellmuth, Jerome, (ed.) The Special Child in Century 21. Seattle, Washington: Seguine School, Inc. 1964.

40 Hindman, D. A. Complete Book of Games and Stunts. Englewood Cliffs, Prentice Hall, 1958

41 Hood, O. E. Your Child or Mine: The Brain-Injured Child: His Hope. New York: Harper & Row Publisher. 1957.

42 Horns, Ernest. A Basic Writing Vocabulary. Iowa City, Iowa: University of Iowa. 1926.

43 Ingram, Christine D. Education of the Slow Learning Child. Yonkers, New York: World Book Co. 1935.

44 Kainz, Lusie, and Olive L. Riley. Exploring Art. New York: Harcourt Brace and Company. 1947.

45 Kephart, Newell C. The Brain Injured Child in the Classroom. Society for Crippled Children and Adults. 1963.

46 Kephart, Newell C. The Slow Learner. Columbus: Merrill Books Inc. 1960.

47 Killilea, Marie Lyons. Karen. New York: Prentice Hall, Inc. 1952.

48 Lee, J. Murray and Dorris May Lee. The Child and His Curriculum. New York: Appleton-Century-Crofts, Inc. 1950.

49 Lee, E. A. and Thorpe, L. P. Occupational Interest Inventory. Dallas, Texas: California Test Bureau.

50 Lewis, Richard S. The Other Child. New York: Grune and Stratton. 1960.

51 Lowenfeld, Viktor. Creative and Mental Growth. New York: The Macmillan Company. 1963.

52 Lozito, Carl C. (ed.) "The Brain-Injured Child." The Special Education Review. Newark, New Jersey. Volume 13. No. 2. 1956.

53 MacCarthy, D. Language Development in Children. In Carmichael, L. Manual of Child Psychology. New York: John Wiley and Sons, Inc. 1954.

54 McDonald, Eugene T. Understand Those Feelings. Pittsburgh, Pennsylvania: Stanwix House Inc. 1963.

55 McIlvain, Dorothy S. Art for Primary Grades. New York: G. P. Putnam's Sons. 1961

56 McMullin, Margery D. How to Help the Shut In Child. New York: E. P. Dutton and Company, Inc. 1954.

57 Magary, James F. (ed.) The Exceptional Child: A Book of Readings. New York: Holt, Rinehart & Winston. 1960.

58 Michal-Smith, Harold. The Special Child. Seattle: New School for the Special Child. 1962.

59 Michal-Smith, Harold. Management of the Handicapped. New York: Grune and Stratton. 1957.

60 Money, John (ed.) Reading Disability, Progress and Research Needs in Dyslexia. Baltimore: The John Hopkins Press. 1962.

61 Mursell, James L. Human Values in Music Education. New York: Silver Burdette Company.

62 Myklebust, Helmer R. and Doris L. Johnson. Learning Disabilities: Educational Principles and Practices. New York: Grune and Stratton. 1967.

63 Patterson, Ruth M. (ed.) Teaching Devices for Children with Impaired Learning. Columbus, Ohio: Division of Mental Hygiene, State of Ohio. 1965.

64 Penfield, Wilder and Lamar Roberts. Speech and Brain Mechanism. Princeton, New Jersey: Princeton University Press. 1959.

65 Perry, Evanda Kraus. Art Adventures with Discarded Materials. New York: Noble and Noble Printers. 1933.

66 Prudden, Bonnie. Is Your Child Really Fit. New York: Harper. 1956.

67 Radler, D. H. and Newell C. Kephart. Success Through Play. New York: Harper and Rowe. 1960.

68 Roper, E. C., G. G. Prideaux, A. E. Lee, and L. P. Thorpe. Vocational Interest Analysis. Dallas, Texas: California Test Bureau.

69 Ross, Allen O. The Exceptional Child in the Family. New York: Grune and Stratton. 1964.

70 Strauss, Alfred A. and Laura Lehtinen. Psychopatholgy and Education of the Brain-Injured Children. Vol. I. New York: Grune and Stratton. 1947.

71 Strauss, Alfred A. and Newell C. Kephart. Psychopathology and Education of the Brain Injured Children. Vol. II. New York: Grune and Stratton. 1947.

72 Strother, Charles R. Discovering, Evaluating, Programming for the Neurologically Handicapped Child. Chicago: National Society for Crippled Children and Adults.1963.

73 Texas Education Agency. Counselor's Guide to Vocational Education Programs. 1967.

74 Travis, Lee Edward. Handbook of Speech Pathology. New York: Appleton-Century-Crofts, Inc. 1957.

75 Ward, Winifred. Stories to Dramatize. Anchorage, Kentucky: Children's Theatre Press. 1959.

76 Weingarten, K. P. Picture Interest Inventory. Dallas,Texas. California Test Bureau.

77 Wood, Nancy E. Language Development and Language Disorders. Lafayette, Indiana: Child Development Publications. 1960.

Articles

78 Arnstein, George E. "Vocational Education" The Bulletin of the National Association of Secondary-School Principals. Vol. 48. No. 295. Nov. 1964. p.56.

79 Barsch, Ray H. "Counseling the Parent of the Brain-Damaged Child." Journal of Rehabilitation. Vol. XXVII. No. 3. May-June, 1961. p.26

80 Clements, S. D. and J. E. Peters "Minimally Brain Disfunction in School Age Children." Archives of General Psychiatry. Vol. 6. No. 3. Mar. 1962. pp. 185-197.

81 Fouracre, Maurice. "Learning Characteristics of Brain-Injured Child." Exceptional Child 24:5. Jan. 58. pp. 210-212.

82 Gallager, J. M. "Can't Spell, Can't Read." The Atlantic Monthly. June 1948. pp. 35-39.

83 Kaliski, Lotte. "The Brain Injured Child: Learning by Living in a Structured Setting." American Journal of Mental Deficiency. 63:4. Jan. 1959. pp. 688-695.

84 May, John B., M. D. and others. "Problems of the Child with Minimal Brain Damage." The Maryland Teacher. March. 1963. p. 20.

85 McGinnis, Mildred. "Teaching Aphasic Children." The Volta Review. LVIII. June 1956. pp. 239-244.

86 Mykelbust, Helmer. "Training Aphasic Children." The Volta Review. L. April 1955. pp. 156-157.

87 Orton, Samuel. "The Sight Reading Method of Teaching Reading As a Source of Reading Disability." Journal of Educational Psychology. Feb. 1929. pp. 139-140.

88 Rudloff, Joseph S. "Counseling Hearing Handicapped Children in School." Journal of Exceptional Children. Vol. 30. No. 6. February 1964.

89 Wood, Nancy. "Language Disorders: An Educational Problem." Education LXXXIX. March 1959. p.402.

Teaching Methods

90 Barry, Hortense. The Young Aphasic Child: Evaluation and Training. Washington, D. C.: Alexander Graham Bell Association for the Deaf. 1961

91 Cruickshank, William. A Teaching Method for Brain-Injured and Hyperactive Children. Syracuse, New York: Syracuse University Press. 1960

92 Delacato, Carl H. The Diagnosis and Treatment of Speech and Reading Problems. Springfield, Ill.: Charles C. Thomas. 1963.

93 Fernald, Grace M. Remedial Techniques in Basic School Subjects. New York: McGraw Hill Book Co.

94 Fitzgerald, Edith. Straight Language for the Deaf. Washington, D.C.: The Volta Bureau. 1962.

95 Frostig, Marianne. The Frostig Program for the Development of Visual Perception. Chicago: The Follett Publishing. 1964.

96 Gillingham, Anna. Remedial Training for Children with Specific Disability in Reading, Spelling, and Penmanship. New York: Sacketta and Wilhelms Lithographing Corp. 1940.

97 Lamoreau, Lillian A. and Dorris May Lee. Learning to Read Through Experience. New York: Appleton-Century-Crofts, Inc. 1943.

98 McGinnis, Mildred A. Aphasic Children. Washington, D. C.: Alexander Graham Bell Association for the Deaf. 1963.

99 Montessouri, Maria. The Discovery of the Child. Wheaton, Ill.: The Theosophical Press. 1948.

100 Myklebust, Helmer R. *Auditory Disorders in Children*. New York: Grune and Stratton. 1954.

101 Orton, S. T. *Reading, Writing, and Speech Problems in Children*. New York: Norton. 1937.

102 Peter, Lawrence J. *Prescriptive Teaching*. New York: McGraw Hill. 1964.

103 Siegel, Ernest. *Helping the Brain Injured Child*. New York: The Association for the Brain Injured Children. 1961.

104 Spalding, R. B. and W. T. Spalding. *The Writing Road to Reading*. New York: Whiteside, Inc. and William Morrow and Company. 1957

Assessment Devices

105 Dunn, L. M. *Peabody Picture Vocabulary Test*. Nashville, Tennessee: American Guidance Service.

106 "An Educational Evaluation for Children with Specific Learning Disabilities." Rockville, Maryland: Montgomery County Public Schools. 1958.

107 Frostig, Marianne. *Developmental Test of Visual Perception*. Chicago: The Follett Publishing Company. 1964.

108 Kephart, N. C. "Perceptual Survey Rating Form.: *The Slow Learner*. Columbus: Charles E. Merrill. 1960. pp. 63-75.

109 Kephart, N. C. "Survey Rating Scale Scoring Criteria." Madison, Wisconsin: Wisconsin Bureau for Handicapped Children.

110 Kirk, S. A. and J. J. McCarty. *Illinois Test of Psycholinguistic Abilities*. Urbana, Illinois: Institute for Research, University of Illinois.

111 Wepman, Joseph M. *The Wepman Auditory Discrimination Test*. Chicago: Language Research Associates. 950 E. 59th St.

Reading Programs

112 Sullivan, M. W. Programmed Textbooks: Series I, Reading. Books 1, 2, 3, 4. Palo Alto, California: Behavioral Research Laboratories. P. O. Box 577. 1966.

113 Fitzhugh, Kathleen and Loren Fitzhugh. The Fitzhugh PLUS Program. Spatial Organization Series Workbooks 1, 2, 3. Galien, Michigan: Allied Education Council Distribution Center. 1966.

114 Woolman, Myron. Reading In High Gear. Chicago: Science Research Associates, Inc. 1964.

115 Woolman, Myron. Lift-Off to Reading: The Basal Choice Reading Program. Chicago: Science Research Associates, Inc. 1966.

116 Goldstein, Herbert and Edith Levitt. A Simplified Reading Readiness Program. Urbana, Illinois: R. W. Parkinson and Associates. 1965.

117 Reading Skill Builders. Pleasantville, New York: Educational Division, Reader's Digest Services, Inc.

118 The E. D. L. Study Skills. Huntington, New York: Educational Developmental Laboratories, Inc.

This social studies and science program is an excellent program to develop reading and study skills.

Vocabulary Lists

119 Borreca, F. A.; Burger, R.; Goldstein, I.; and Simches, R. "A Functional Core Vocabulary for Slow Learners." American Journal of Mental Deficiency. Vol. 58. No. 2. Oct., 1953. Reprint copies available from Robert Burger, P. O. Box 165, Rensselaer, New York.

For the first five cores there are two lists arranged in alphabetical order. One of these is a list of essential words for the studying of the core--these are called Core Lists. The other is a list of words taken from the standard word lists that aid in verbalizing the core experiences--these are called Standard Lists. The latter three cores for slow learning adolescents each contain a Core List and a specialized Vocational List instead of the Standard List words. In each succeeding

adolescent core the Vocational List words increase in difficulty as the student specializes in given job areas.

120 Buckingham, B. R. and Dolch, E. W. A Combined Work List. Ginn and Company, Boston Massachusetts.

121 Dolch, E. W. *The 2,000 Commonest Words for Spelling* The "2,000 Commonest Words" make up 95% of all words written by an average person. Students who can spell these words correctly will be free from common spelling errors. This practical spelling aid has been revised to include sections that give other valuable helps for spelling. Published by The Garrard Press, 510 North Hickory Street, Champaign, Illinois.

122 Fry, Edward. *Developing a Word List for Remedial Reading*. Los Angeles, Calif.: Reading Clinic, Loyola Univ.

123 Gates, A. I. A Reading Vocabulary for the Primary Grades. 1935. 29 pp. This booklet contains a list of 1811 words selected as suitable for use in all forms of reading material in Grades 1, 2, and 3. Published by Bureau of Publications. Teachers College, Columbia University, 525 West 120th Street, New York 27, N. Y.

124 Murphy, H. A. "The Spontaneous Speaking Vocabulary of Children in Primary Grades." *Journal of Education*. Published by Boston University School of Education. Vol. 140. No. 2. December, 1957. 104 pp.

"The list included in this bulletin summarizes several group studies completed recently at Boston University concerning the spontaneous speaking vocabulary of children in Kindergarten, Grades 1, 2, and 3." Ca. 6200 words primarily of New England children. Includes vocabulary relating to fields of aviation, radio and television, not in older lists.

125 Rinsland, Henry D. A Basic Vocabulary of Elementary School Children. New York: The Macmillan Co. 1947.

126 Thorndike, E. L. and I. Lorge. The Teacher's Word Book of 30,000 Words. 1944. 274 pp.

Most extensive word count in the English language. The book includes counts for the frequency of use of each of the 30,000 words in General literature and in four different sets of reading matter: the Thorndike general count of 1931 (the 20,000 word list); the Lorge magazine count; the Thorndike juvenile book count; the Lorge-Thorndike semantic count. Grade placements of

the words are suggested. Published by Bureau of Publications, Teachers College, Columbia University, 525 West 120th Street, New York 27, N. Y.

127 Tudyman, Al and Groelle, M. C. A Functional Basic Word List for Special Pupils. Stanwix House, Incorporated. Pittsburgh 4, Pennsylvania. 1959. 63 pp.

This Functional Basic Vocabulary unites reading abilities with social and chronological age needs. The list is presented in three general classifications: Elementary, Intermediate, and Advanced. The individual lists are each presented in alphabetical sequence; the three lists are also combined in a properly identified alphabetical list for ready reference.

The authors have used two basic criteria. The words selected are those found to be most frequently recurring in several of the elementary basic reading series and in several of the recognized standard word lists; and/or, the words selected have special significance to mentally retarded and slow-learning children because they are most appropriate for their day-to-day needs. The words in the Advanced List hold a high degree of import in social and occupational areas. This new and functional word list is being used as the vocabulary in the preparation of a series of functional basic reading materials designed specifically for children who have marked difficulties in learning to read and who, at best, will have a minimal reading vocabulary.

128 Young, Milton A. Academic Skills Required in Job Areas. Storrs, Conn.: University of Conn.

APPENDIX A

DEFINITIONS OF A BRAIN-INJURED CHILD

> There is a group of children in whom it is probable that there has been a developmental disturbance of the brain since the earliest stage of cell division in the embryo. This condition can best be understood in terms of developmental lags of certain cerebral systems...deviation or pathology of the central nervous system tends to produce a general kind of disorganization of behavior patterns...
>
> In many mild cases there are often none of the usual neurological signs sought for by the neurologist.

Bender, Lauretta. Psychopathology of Children with Organic Brain Disorders. Springfield, Illinois: Charles C. Thomas. 1956.

> ...those with damage to the nervous system which have resulted in some primary disorganization, who have developed patterns of behavior in the course of atypical relations with the developmental environment including its interpersonal, objective, and social features.

Birch, Herbert G. "Brain-Injured Children." Rehabilitation Literature. February 1964. p. 34.

> Children characterized by a developmental lag, failure to adapt to the standards of a child society, failure to reach integrative standards typical of their chronological age and mental ability, and failure to achieve and to learn on the level of their intelligence, with or without evidence of brain damage.

Cruickshank, Wm. M., Frances A. Bentzen, Frederick H. Ratzburg, and Mirian T. Tannhauser. A Teaching Method for Brain-injured and Hyperactive Children. Syracuse, New York: Syracuse University Press. 1961. pp. 11-12.

> The prefix alludes to neural elements, and by extension, the central nervous system, while the suffix refers to the mind, and by extension, to the total personality or behavior....Therefore, it implies abnormal behavior associated with neuropathology.

Doll, Edgar. "Neurophrenia." *American Journal of Psychiatry*. Vol. 21:3. July 1951.

> ...the brain injured child will be considered...as one whose behavior has been modified by some damage to the brain or by a disturbance in the development of the brain.

Fourace, Maurice. "Learning Characteristics of Brain-Injured Children." *Exceptional Children*. Washington, D. C.: N.E.A. January 1958. v. 24. p. 210.

> One who is unable to interpret the stimuli received from his peripheral sense organs. In addition he suffers more or less serious disturbances in the output and patterning of impulses. His behavior is disorganized, impulsive, driven. He is confused about spatial relationships. He has a faulty body image. He cannot consistently integrate a form as a meaningful whole and then separate it away from its background so it can be focused upon and comprehended. When percepts are confused and thinking is disorganized, communication cannot be clear.

Freidus, Elizabeth. "New Approaches in Special Education of the Brain-Injured Child." *The Brain-Injured Child*. New York: New York Association for Brain-Injured Children. p. 16.

> Psychoneurological learning disorders include deficits in learning, at any age, which are caused by deviations in the central nervous system and which are not due to mental deficiency, sensory impairment of psychogenecity. The etiology might be disease and accidents, or it might be developmental.

Myklebust, Helmer R. *Conference on Children with Minimal Brain Impairment*. University of Illinois. Urbana, Illinois. 1963. p. 27.

> The brain damaged child, due to neurological insult, has suffered interference with the normal development of his learning functions; that these interferences become significant not so much in themselves as in their manifestation as a syndrome comprised of deficiencies in the control or regulation of impulses, in inadequate integrative functioning, and in a hypersensitivity from a defective self-image; and, finally, that today, with proper diagnosis and treatment, these youngsters can be and are being successfully rehabilitated.

Rappaport, Sheldon R. and Robert Decker. *The Pathway School*. Narberth, Pennsylvania. 1964. p. 57.

Brain injury denotes particular concomittant manifestations-perceptual, conceptual, and/or behavioral disorders.

Siegel, Ernest. Helping the Brain Injured Child. New York: Association for Brain Injured Children. 1962.

A learning disability refers to a retardation, disorder or delayed development in one or more of the processes of speech, language, reading, spelling, writing, or arithmetic resulting from a possible cerebral dysfunction and/or emotional or behavioral disturbance and not from generalized mental retardation, sensory deprivation, or cultural or instructional factors.

Kirk, Samuel A. Conference on Children with Minimal Brain Impairment. Urbana, Illinois: University of Illinois. 1963. p. 41.

Every elementary school teacher has encountered at least one child who cannot learn. He seems bright and alert enough. His intelligence appears to be average. But he cannot learn to read. Moreover, his behavior in the classroom is bizarre. He seems to pay attention to everything at once and to nothing in particular. He is rarely still. Now and then he jumps up and cries out. Of course, he is sorry. But he keeps doing it again, and again.

Lewis, Richard S. The Brain Injured Child. Chicago, Illinois: The National Society for Crippled Children and Adults, Inc. 1963. p. 1.

Aphasia then is an inability, total or partial to understand or to use language in any one or all of its forms, such inability being independent of any other mental capacity or of deformity or disease affecting the organs of articulation.

McGinnis, Mildred. Aphasic Children. Washington, D. C.: Alexander Graham Bell Association for the Deaf, Inc. 1963. p. xv.

APPENDIX B

SAMPLE FORMS

THE INDIVIDUAL PSYCHOLOGICAL REPORT

An individual psychological evaluation is a comprehensive process requiring the gathering of information from a variety of sources, the assessment of this information and the subsequent preparation of a written report of findings and recommendations. The primary purpose of the report is to assist the placement committee in making decisions concerning the placement of the child in an appropriate educational setting and for the teacher to become informed concerning the limitations and learning abilities of each child. To make recommendations appropriate to the educational setting, the placement committee must consider carefully all pertinent information. Some of this information is obtained by psychological techniques and some of it is available from and/or obtained by others. Hence, an individual psychological report is one in which the psychological examiner takes into consideration information about physical condition, personal adjustment, social adjustment, intelligence, achievement, environment (e. g., home, school, neighborhood) and related factors.

The following resources are used to obtain the information needed to make a comprehensive evaluation:

- Health records
- Pupil personnel records
- Anecdotal records
- Standardized individual tests of intellectual functioning
- Standardized and nonstandardized group and individual tests of achievement
- Observations of behavior in classroom and in other situations
- Interviews with parents
- Conferences with teachers and other school staff

- Records of community agencies
- Sometimes projective tests and techniques when the need is indicated

The report of an individual psychological evaluation should be written with clarity and conciseness. The material which follows shows the format and the areas to be included by the psychological examiner when preparing a written report:

IDENTIFYING DATA: The heading of a report of an individual psychological evaluation should identify the pupil and provide any other information needed for filing the report. Included should be the pupil's name, his birth date, the name of the school he attends, the date of the evaluation, the date on which the report was submitted, and the name of the examiner.

REASON FOR REFERRAL: The reason for making the referral for individual psychological evaluation should be given.

DEVELOPMENTAL HISTORY: Unusual developmental events (e.g., age of walking, talking, toilet training) should be reported. It is not necessary to write a detailed history if the pupil's development has been essentially normal.

SCHOOL HISTORY: Only those factors which are unusual need to be reported (e.g., grades repeated, prolonged or frequent absences).

PHYSICAL HEALTH: Reference to physical condition should be included. Special mention should be made of physical characteristics which may affect learning. Visual and auditory defects should be noted. Comments on physique or cosmetic defects may be included.

PSYCHOLOGICAL TECHNIQUES: Names of standardized individual tests of intellectual functioning used; scores in I. Q., M. A. and S. A. (Intelligence quotients and mental ages should be provided for the administrator to record on the summary sheet to justify eligibility of pupils in classes for special education).

SUPPLEMENTARY EVALUATIONS: These techniques are used to determine the child's motor, sensory, and language development. Such tests might include the Illinois Test of Psycholinguistic Abilities, Frostig Test of Visual Perception, The Wepman Auditory Discrimination Test, and Peabody Picture Vocabulary Test. Findings in these areas should be presented to the teacher in understandable terms.

INTELLECTUAL FUNCTIONING: Findings in this area should be presented in terms understandable to the persons for whom the report is intended. Descriptions of the level or range of intellectual ability should be provided. Characteristics, strengths, or limitations of intellectual function need to be elaborated.

PERSONALITY AND BEHAVIOR: The report should include reference to attitudes, needs, and conduct and other aspects of personality, attitudes and social action. Material obtained from projective techniques should be incorporated into the total description rather than reported as isolated findings.

ACHIEVEMENT: Emphasis should be placed on evidence of unusual retardation, acceleration, or vocational proficiencies.

SUMMARY AND RECOMMENDATIONS: The summary should consist of a brief recapitulation of all findings. Recommendations for further action should be made in the light of available information and subject to modifications as conditions change.

Signature______________________________
Psychological Examiner

____
Official Title

LONGVIEW PUBLIC SCHOOLS

MEDICAL EVALUATION

(Confidential)

Name________________________Sex______Birthdate____________Date__________

Address____Telephone__________

Examining Physician________________________Address________________________

GENERAL MEDICAL INFORMATION

History: Student Family

Convulsions________________________
Diabetic________________________
Epileptic________________________
Shocks________________________
Accidents________________________
Orthopedic Impairments________________________
Illnesses________________________
Other________________________

Ever hospitalized? (Indicate reasons and date)________________________

When were present physical defects first observed?________________________

Treatment, past and present________________________

Indicate any particular symptoms of which teacher should be watchful________________________

What should be done if symptoms are observed?________________________

Physical Activities:

Walking____ Lifting____ Reaching____ Stooping____ Pulling____ Kneeling____ Standing____ Pushing ____
Other________________________

Code to be used for Physical Activities.
(X) No Limitations (—) Limitations (o) To Be Avoided

SPECIFIC MEDICAL INFORMATION

Height______________ Weight______________ Handedness______________

Eyes: Right______________Left______________

Distant Vision: Without glasses. Right: 20/______ Left: 20/______
With glasses. Right: 20/______ Left: 20/______
Comments:________________________

Ears: Hearing (Ordinary Conversation) Right______________Left______________
1. Evidence of middle ear or mastoid disease________. 2. Condition of drums: normal___, absent___, perforated___, dull___, retracted___, discharge___, 3. Other________________________
Comments:________________________

Nose: 1. Obstruction____ 2. Evidence of chronic sinus infection____
3. Polpi____ 4. Perforated____ 5. Septum____
Comments:____

Throat: Tonsils normal____, enlarged____, removed____ Adenoids removed____
Comments:____

Mouth: 1. Missing teeth____ 2. Pyorrhea____ 3. Abnormality of tongue or palate____
Comments:____

Neck: 1. Thyroid enlargement____ 2. Cervical nodes____
Comments:____

Lungs: Right____ Left____ TB Skin Test____
Comments:____

Abdomen: 1. Scars____ 2. Masses____ 3. Palpable Liver____ 4. Palpable Spleen____
Comments:____

Skin:____

Feet: 1. Weak feet____ 2. Congenital or Traumatic Abnormalities ____ 3. Varicose veins____ (site) 4. Other____
Comments:____

Circulatory System:

Heart: 1. Enlargement____ 2. Thrill____ 3. Murmurs____ 4. Rhythm____ 5. Other____
Comments:____

Blood Pressure: 1. Pulse____ 2. Dyspnea____ 3. Cyanosis____ 4. Edema____(site)
5. Evidence of Arteriosclerosis____ 6. Other____
Comments:____

Laboratory: CBC____Urinalysis____PKU____
Comments:____

Disabilities: Indicate major and minor____
____

Recommendations:

1. Consultation with specialist (specify)____
____
2. Other diagnostic procedures (specify)____
____
3. Hospitalization (specify reason)____
____
4. Treatment (specify)____
____
5. Other____
____

Please mail directly to:
Department of Educational Services
Longview Public Schools
Longview, Texas

____
Physician

SUGGESTED OUTLINE FOR NEUROLOGICAL EVALUATION

SPECIAL SENSES:

Vision (visual acuity correctable to normal)

Hearing

Taste

Smell

CRANIAL NERVES:

III, IV, and VI - eye movements
Lateral
Other

V - Trigeminal
Motor Movement of jaws______________deviaiton____________
Sensory: Pain-touch-temp
Corneal reflex

VII or Facial - Motor
Palpebral fissures equal___________unequal_________R - L
Movement face
Movement lips
Ability to close one eye independently of the other
R - +, L - +
Position of lips at rest--Parted some___More___Much______

IX - X Glossopharyngeal and Vagus
Pharyngeal Sensation R________________L________________
Pharyngeal reflex R________________L________________
Palatal sensation R________________L________________
Palatal reflex R________________L________________
Uvula: position__________Movement________Sensation______
Phonation: hoarse______Hypernasal______Other___________

XII Hypoglossal (Tongue Movements)
Position of tongue at rest Interdental_____R____L_____
Tongue protruded central_____________________R____L_____
Tongue movement upward__________Lateral:_____R_____L_____
Tongue atrophy R____________________L_________________
Inability to curl tongue at edges_________________________
Abnormal movements_______________________________________

MOTOR SYSTEMS:

Muscle Status:

Strength in hands

Strength in arms

Strength in legs

Contour:
Muscular 1 2 3
Hyposthenic 1 2 3
Atrophy

Tone: Hypotonia

Tone: Hypertonia

Gait, station and posture:

Appearance: dull_____hyperactive___slouches___leans against
objects____flat feet (weak feet)____with eversion____
rotation______________________stiffness____________________

Stride: normal______wide base______decreased flexion:
ankles__________________________knees______________________
on toes____________on heels__________on a line__________
position of trunk__________head________on a line_________
strength of legs____

Lower motor neurone system
Decrease in muscle tone
Weakness, muscle
Paralysis, muscle

Upper motor neurone system (pyramidal)
Increase in muscle tone
Spasticity
Clonus

Extrapyramidal system
Rigidity
Tremor (rest)
Choreiform movements
Athetoid positioning

Cerebellar system
Ataxia - truncal
Dysmetria
Intention tremor
Nystagmus

COORDINATION AND EQUILIBRIUM:

Upper Extremities:

Synchronous and successive rapid bilateral movements

- Alternating flexion and extension of fingers (opening and closing fist) (Bilateral - R - L)
- Apposition of thumb (Bilateral - R - L)
- Approximation and abduction of fingers (Bilateral - R - L)
- Supination and pronation of outstretched hands with wrists extended and fingers abducted (Bilateral - R - L)
- Patting chest rhythmically, then alternating supination and pronation touching thighs (Bilateral - R - L)
- Tandem Walking (straight line)

Lower Extremities:

Standing on one foot (R and L)

Jumping on both feet

Hopping on one foot (R and L)

Knee bends

REFLEXES:

Deep tendon reflexes
(absent, hyperactive, 0 = normal, 1 = hyperactive, 2 = unsustained clonus, 3 = sustained clonus)

Superficial reflexes

Plantar reflex (Babinski)

SENSORY SYSTEMS:

Pain appreciation equal R = L ________________

Touch appreciation equal R = L ________________

Temperature appreciation equal R = L ________________

Vibratory appreciation equal R = L ________________

Position Toes_________ankles_________fingers____________
Romberg's sign - present - absent

Stereognostic appreciation equal R = L ________________

Extinction Phenomena Face R = L
Hands R = L
Legs R = L

PARENTS PERMISSION FOR FIELD TRIPS

It is wise to secure permission from the parents for such outings. The most feasible way is to ask the parent to grant a blanket permission for all such field trips to be made during the year. The following form may be used:

FIELD TRIPS WITHIN CITY LIMITS

Special Education Class
__________________________School
__________________________, 19___

________________________________ has my permission to go on all field trips and/or short excursions at any time during the school year that the teacher may deem necessary for concrete experiences. These trips will be well-planned and all precautions will be taken to prevent any accident. I understand, however, that neither the __________________________School nor the ________________________ School District can assume responsibility for any accident involving my child while on the excursion.

____
(Parents' Signature)

PARENTS PERMISSION FOR OUT-OF-TOWN FIELD TRIPS

____

Special Education Class
__________________School
__________________, 19__

__________________ has my permission to go on an out-of-town field trip. This trip will be well-planned and all precautions will be taken to prevent any accident. I understand, however, that neither the __________________School nor the __________________School District can assume responsibility for any accident involving my child while on the trip.

____
(Parents' Signature)

____
Destination of Trip

____
Time and Date of Departure

____
Mode of travel

____
Time and Date of Return

PLACEMENT COMMITTEE RECOMMENDATION

Special Education __________Schools

The Special Education Evaluation Committee of the ______________

______________________________School District met on ____________

__________, 19______, at ____________________________________

to study the collected data and to consider placement of _______

____.

The Committee recommended that this child be (placed, continued)

in ____on a

trial basis. Any change in conditions which would merit further study and/or action may be reviewed by the Committee.

______________________, 19_____ ______________________________

Chairman of Committee

Copies to:

____

Special Education Teacher
Principal of School
Committee Files

____

____

(Signatures)

WITHDRAWL FORM

Special Education

__________________ Public Schools
________________, 19____

Name of Child____

School____________________________Date of Drop________________

Age________________Birthdate_______________________________

Parents' Name____

Parents' Address__________________________________Phone__________

Did Placement Committee recommend removal of child from classroom:

__________________ Yes

__________________ No

Reason____

____

____

Did child withdraw from class for other reasons?

__________________ Yes

__________________ No

Reason____

____

____

EMERGENCY CARE

Please complete the following form and return to your child's school as early as possible. It is extremely important that this information be available in case of a medical emergency. With your cooperation, we can do a better job in our school health program in caring for your child.

In order to protect your child ______________________in case of a medical emergency, we would appreciate your filling in the following:

I. a. Telephone number where parents may be reached__________

b. Family physician (name)_______________Tel. No.________

c. Your choice of hospital_____________________________

d. In the event the family physician is not available, indicate another physician to whom your child should be referred.

(Name)____________________________Tel. No.___________

e. In case of accident or sudden illness to the above named child, I hereby authorize a representative of the ______ _______________Public Schools to refer the child to the above mentioned physician or any other physician available in an emergency.

II. We have no family physician, and I hereby authorize a representative of the ________________________Public Schools, in care of an accident or sudden illness to the above named child, to refer the child to the City or County physician, County Hospital, or available medical service_____________. (Check if you have no family physician.)

III. In the event there is a change of physician or hospital, notify the principal of your child's school immediately.

Signed_____________________________

Address_________________________________Date__________________

SUMMARY

TEACHER-PARENT CONFERENCE

Student________________________________Date________________

Conference requested by: Teacher______ Place: School______

Parent_______ Home________

_____________ Phone_______

Parent(s)____

Teacher____

Others in attendance_____________________________________

Purpose of conference:

Recommendations:

Comments:

APPENDIX C

EQUIPMENT, MATERIALS, AND SUPPLIES

Much of the equipment already in the school can be used for teaching the minimally brain-injured child. Other materials and supplies are listed. All these materials are not necessary to insure an effective program. The teacher should request materials carefully and selectively making sure that she will make effective use of those ordered. Many useful "discard" materials can be secured without cost.

School Equipment

To be shared by whole school

- Slide or filmstrip projector
- Movie projector and screen
- Tape recorder and tapes
- Record player and records
- Jungle gym
- Playground equipment
- Duplicator, stencils, and paper
- Library facilities
- Typewriter
- Microscope
- Paper cutter
- Globe
- Storage closets

Classroom

- Chalk
- Chart paper
- Chart rack
- Pocket chart
- Bulletin boards
- Mirror
- Clock
- Maps (Texas and United States)
- Puzzles
- Paste, glue
- Scissors
- Dictionary
- Stencil knife
- Stapler and staples
- Pins
- Hot plate
- Sink
- Portable screens

Art

Purchased supplies

Clay
Tempera paint
Brushes
Wheat paste
Coping saws and blades
Pliers
Hammer
Nails of various sizes
Crayons
Paper (manila, newsprint, oak tag,
lined oak tag, assorted colors
of construction)

"Discard" supplies

Cans
Jars
Bottles
Wire
Cloth scraps
String of all kinds
Old shirts (smocks)
Newspapers
Magazines

Science

Thermometer
Aquarium
Terrarium
(old aquarium or teacher made)

Plants
Magnets
Compass

Arithmetic

Tape measure
Ruler
Yardstick
Calendar
Abacus
Number line

Counting frame
Measuring spoons, cup
Milk cartons (half-pint,
pint, quart, half-gallon, gallon)
Mail order catalogues

Motor Development

Balls (several sizes)
Bean bags
Bat
Ball and jacks
Balance board } can be made with
Walking beam } little or no expense

Cotton ropes
Pull and push toys
Balloons
Beads and string